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TAXONOMY AND DISTRIBUTION OF THE MAMMALS OF NEW MEXICO: AN ANNOTATED CHECKLIST

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Bailey (1931) authored the first treatise devoted to mammalian taxa in New Mexico. His account included treatment of 216 taxa, which represented 154 species of native and 3 species of introduced mammals. Subsequently, Findley et al. (1975) coauthored *Mammals of New Mexico*, which included updated taxonomic and distribution data for the 139 native species of mammals then known to occur in the state (their work did not include treatment of subspecies). The distribution and taxonomy of mammals occurring in the state also have been treated in *The Mammals of North America* (Hall and Kelson 1959; Hall 1981). In the intervening years there have been new species discovered, changes in taxonomy, and improved understanding of distribution patterns. The objective of this paper is to provide an updated list of the mammalian taxa that occur in New Mexico with a brief description of their distribution. The checklist includes a total of 287 taxa representing 164 native species. An additional 14 non-native wild species are listed. The list also includes a discussion of an additional 11 species and 28 subspecies (39 total taxa) of possible occurrence.

This checklist is not intended to be an exhaustive account of taxonomy, distribution, or literature. Only taxonomic changes since Findley et al. (1975) are discussed. In most cases, taxonomy is consistent with the usage in Baker et al. (2003b). Skunks are included in the family Mephitidae following Dragoo

and Honeycutt (1997), spiny pocket mice are included in the genus *Chaetodipus* following Hafner and Hafner (1983), and chipmunks are included in the genus *Neotamias* following Jameson (1999) and Piaggio and Spicer (2001). Departures from Baker et al. (2003b) include the recognition of *Perognathus apache* following Hoffmeister (1986) and *Sylvilagus cognatus* and *Sylvilagus holzneri* following Ruedas (1998). Further, this list includes one species, *Capra sibirica*, which was not included in Baker et al. (2003b). Orders and families are arranged phylogenetically according to Wilson and Reeder (1993). Bovids and murids are further subdivided by subfamily. Subfamilies, genera, species, and subspecies are arranged alphabetically. Where available, vernacular names follow Baker et al. (2003b). Exotic species are indicated with an asterisk; subspecies of exotic species are not included. Reference maps for the locations of New Mexico counties and landforms are provided in Figure 1 and Figure 2, respectively.

ORDER DIDELPHIMORPHIA—Opossums Family Didelphidae (Opossums)

***Didelphis virginiana* Kerr 1792; Virginia Opossum.**—The subspecies is *D. v. virginiana* Kerr 1792 (Gardner 1973). It has been reported from the Rio Grande Valley as far north as Santa Fe (Santa Fe Co.), the Pecos River drainage (Eddy Co.), the Dry Cimarron drainage (Union Co.), and the Llano Estacado (Quay,



Figure 1. New Mexico county boundaries. Thin lines indicate major rivers.

Curry, Roosevelt, and Lea counties; Bermudez et al. 1995; Frey, in press). With the possible exception of animals from the northern edge of the Llano Estacado, the Arkansas River drainage, and the Animas Mountains, opossums in New Mexico likely resulted from human-mediated introductions (Bermudez et al. 1995). A report of this species from the Animas Mountains in Hidalgo Co. (Cook 1986) is of uncertain subspecific status.

ORDER XENARTHRA—Armadillos, Anteaters,
and Sloths
Family Dasypodidae (Armadillos)

***Dasypus novemcinctus* Linnaeus 1758; Nine-banded Armadillo.**—The subspecies is *D. n. mexicanus* Peters 1864. It has been reported from scattered localities in eastern New Mexico including Union, Guadalupe, Eddy, and Lea counties, and the vicinity of Harding and San Miguel counties (Stuart and Knight 1998). Undoubtedly some of these records are introductions (Stuart and Knight 1998). For example, an individual was found wandering the streets

of Clovis, Curry Co., that likely resulted from an introduction (Wes Robertson, personal communication).

ORDER INSECTIVORA—Insectivores
Family Soricidae (Shrews)

***Cryptotis parva* (Say 1823); Least Shrew.**—There are two subspecies. *C. p. berlandieri* (Baird 1857) is restricted to the vicinity of Bitter Lake along the Pecos River in Chaves Co. (Hafner and Shuster 1996). *C. p. parva* (Say 1823) is restricted to Salt Lake in Roosevelt Co. and Tucumcari Lake in Quay Co. (Hafner and Shuster 1996). In the Texas panhandle, this subspecies is known from the Canadian River drainage (Jones et al. 1988) and is expanding its range westward on the Llano Estacado (Pesaturo et al. 1990). Thus, it also may be found in other adjacent areas of New Mexico. A survey of the Pecos River (southern Eddy Co.), Conchas Lake (San Miguel Co.), and Santa Rosa (Bluehole and Swan Lake, Guadalupe Co.) did not reveal this species (Carl Shuster, personal communication).

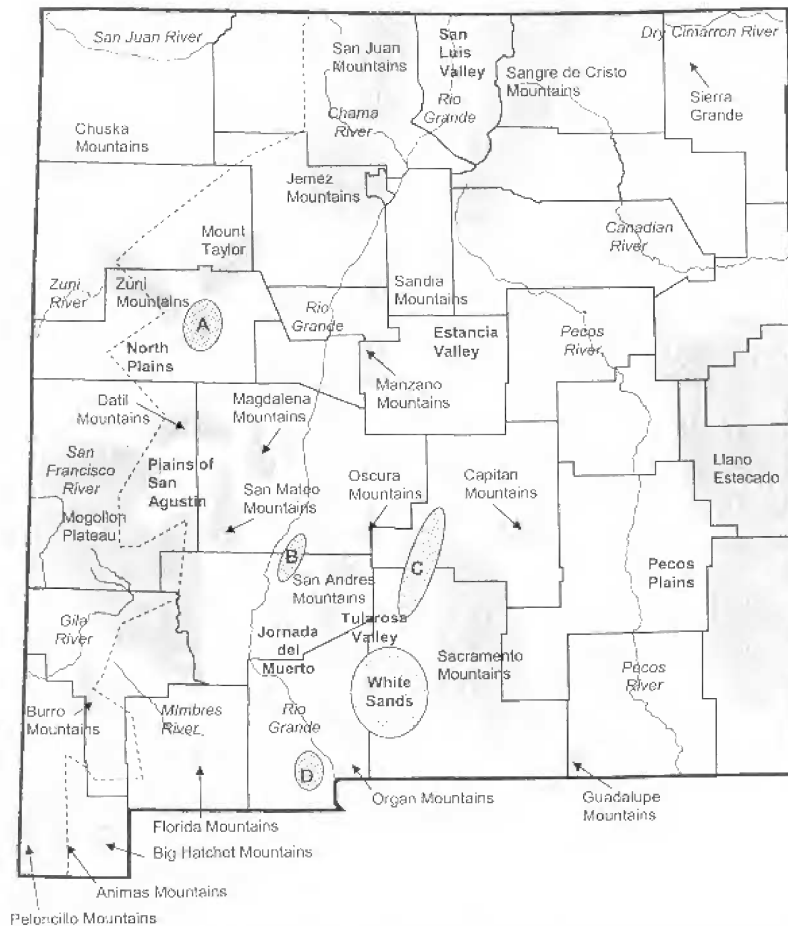


Figure 2. Prominent landforms of New Mexico. Shaded areas are plateaus and mountains, light stippling is the White Sands gypsum dune field, dark stippling represents large lava fields including the Grants Malpais (A), Armendaris (B), Carrizozo (C), and Afton (D) lava fields. The dashed line represents the Continental Divide.

Notiosorex crawfordi (Coues 1877); **Crawford's Desert Shrew**.—The species is monotypic (Baker et al. 2003a). It occurs statewide at lower elevations.

Sorex arizonae Diersing and Hoffmeister 1977; **Arizona Shrew**.—*S. arizonae* is monotypic. It occurs in the Animas Mountains (Conway and Schmitt 1978; Cook 1986). This shrew could eventually be collected from other mountains in the southwest corner of the state.

Sorex cinereus Kerr 1792; **Masked Shrew**.—The subspecies is *S. c. cinereus* Kerr 1792. It occurs in the San Juan, Jemez, and Sangre de Cristo mountains. However, two specimens from the Jemez Mountains (Sandoval Co.) that were tentatively identified as *S. cinereus* based on morphology subsequently were

shown to be closely related to *S. haydeni* to which they may prove to be referable (Demboski and Cook 2003).

Sorex merriami Dobson 1890; **Merriam's Shrew**.—Hall (1981) considered *S. merriami* polytypic (two subspecies) with those from New Mexico regarded as *S. m. leucogenys* Osgood 1909. However, Diersing and Hoffmeister (1977) found little evidence of geographic variation and concluded that the species was monotypic. It occurs in most of the major mountain ranges east of the Rio Grande and in the San Juan and Zuni mountains west of the Rio Grande (George 1990; Hafner and Stahlecker 2002). It should especially be sought on the Mogollon Plateau because it has been collected from the White Mountains in adjacent Arizona (Hoffmeister 1986).

***Sorex monticolus* Merriam 1890; Montane Shrew.**—*S. monticolus* from New Mexico formerly was referred to the species *S. vagrans* (Hennings and Hoffmann 1977). There are two subspecies. *S. m. monticolus* Merriam 1890 occurs in most of the major mountains west of the Rio Grande (except the Jemez and San Juan mountains). *S. m. obscurus* Merriam 1891 occurs in the San Juan, Jemez, and Sangre de Cristo mountains in northern New Mexico and in the Sandia and Manzano mountains in central New Mexico.

***Sorex nanus* Merriam 1895; Dwarf Shrew.**—*S. nanus* is monotypic. It is known from most of the major mountains east of the Rio Grande and from the San Juan, Jemez, and Mount Taylor mountains west of the Rio Grande (George 1990; Hafner and Stahlecker 2002). This species should also be sought in the higher elevations of the Mogollon Plateau because it has been collected from the White Mountains in adjacent Arizona (Hoffmeister 1986).

***Sorex neomexicanus* Bailey 1913; New Mexico Shrew.**—This monotypic species was previously recognized as a subspecies of *S. monticolus* (Alexander 1996). Findley et al. (1975) included it within *S. vagrans*. It occurs in the Capitan and Sacramento mountains (Lincoln and Otero counties). It should also be sought in the Gallinas (Lincoln Co.) and Guadalupe (Eddy Co.) mountains.

***Sorex palustris* Richardson 1828; American Water Shrew.**—The subspecies is *S. p. navigator* (Baird 1857). It occurs in the San Juan, Jemez, and Sangre de Cristo mountains. This species should also be sought in western Catron Co. based on its presence in the adjacent White Mountains in Arizona (Hoffmeister 1986).

***Sorex preblei* Jackson 1922; Preble's Shrew.**—*S. preblei* is monotypic. Kirkland and Findley (1996) reported this shrew from the Jemez Mountains, Sandoval Co.

ORDER CHIROPTERA—Bats
Family Phyllostomidae (New World
Leaf-nosed Bats)

***Choeronycteris mexicana* Tschudi 1844; Mexican Long-tongued Bat.**—The species is monotypic.

It is known from southwestern Hidalgo Co. (Cook 1986; Findley et al. 1975).

***Leptonycteris curasoae* Miller 1900; Southern Long-nosed Bat.**—This form was previously known as *L. sanborni* (Arita and Humphrey 1988). The subspecies is *L. c. yerbabuenae* Martinez and Villa-R. 1940. It is known from southwestern Hidalgo Co. (Cockrum and Petryszyn 1991; Hoyt et al. 1994).

***Leptonycteris nivalis* (Saussure 1860); Mexican Long-nosed Bat.**—Two specimens reported by Findley et al. (1975) as *L. sanborni* (= *L. curasoae*) were actually *L. nivalis* (Arita and Humphrey 1988). The species is monotypic. It is known from the Peloncillo and Animas mountains in southwestern Hidalgo Co. (Hoyt et al. 1994).

Family Vespertilionidae (Vesper Bats)

***Antrozous pallidus* (Le Conte 1856); Pallid Bat.**—There are two subspecies which are both summer residents. *A. p. pallidus* (Le Conte 1856) occurs statewide exclusive of the range of the other subspecies. *A. p. bunkerii* Hibbard 1934 is known from northeast Quay and Union counties (Manning et al. 1988; Dalquest et al. 1990). The limits between the two subspecies are not precisely known. Specimens from the northern and eastern edge of the Llano Estacado (Chaves, De Baca, Guadalupe, Quay counties) might be intergrades (Choate 1997).

***Corynorhinus townsendii* (Cooper 1837); Townsend's Big-eared Bat.**—This species was formerly placed in the genus *Plecotus* (Frost and Timm 1992). The subspecies is *C. t. pallescens* Miller 1897. It probably occurs statewide year-round although there are no records from east of the middle and lower Pecos River or throughout much of the northwestern quarter of the state.

***Eptesicus fuscus* (Beauvois 1796); Big Brown Bat.**—There are two subspecies. *E. f. fuscus* is known from eastern New Mexico in Union Co. (Dalquest et al. 1990). *E. f. pallidus* Young 1908 occurs statewide exclusive of the range of *E. f. fuscus*. Choate (1997) considered specimens from the northeastern edge of the Llano Estacado to be intergrades between *E. f. fuscus* and *E. f. pallidus*, but all were assigned to *E. f. pallidus*.

***Euderma maculatum* (J. A. Allen 1891); Spotted Bat.**—The species is monotypic. It is known from the Rio Grande, Rio Chama, and Animas River valleys; the Mogollon Plateau; and the Jemez, San Mateo, and Sacramento mountains (Best 1988; Perry et al. 1997). Undoubtedly its range is greater than available records indicate.

***Idionycteris phyllotis* (G. M. Allen 1916); Allen's Big-eared Bat.**—The species is monotypic. It is a summer resident known from the Mogollon Plateau and western Socorro Co. in the San Mateo and Magdalena mountains.

***Lasionycteris noctivagans* (Le Conte 1831); Silver-haired Bat.**—This species is monotypic. It is a summer resident of high mountains but has been collected at lower elevations statewide during seasonal migration. It may be a permanent resident in the southwestern portion of the state.

***Lasiurus blossevillei* (Lesson and Garnot 1826); Western Red Bat.**—This was formerly a subspecies of *L. borealis* (Baker et al. 1988; Morales and Bickham 1995). The subspecies is *L. b. teliotis* (H. Allen 1891). It is a summer resident in the southwestern portion north to the Mogollon Plateau and east to the Rio Grande in Doña Ana Co. (Valdez et al. 1999a).

***Lasiurus borealis* (Müller 1776); Eastern Red Bat.**—The species is monotypic (Baker et al. 1988). It is a summer resident known from the middle Rio Grande in Socorro Co. (Valdez et al. 1999a), Carlsbad Caverns National Park in Eddy Co. (Geluso and Geluso, in press), and the city of Portales on the Llano Estacado in Roosevelt Co. (Choate 1997).

***Lasiurus cinereus* (Beauvois 1796); Hoary Bat.**—The subspecies is *L. c. cinereus* (Beauvois 1796). Males are summer residents of the northern mountains; females are absent during the summer (Findley et al. 1975). Both sexes occur statewide during migration (Cryan 2003).

***Lasiurus xanthinus* (Thomas 1897); Western Yellow Bat.**—This monotypic species was formerly considered a subspecies of the eastern yellow bat *L. ega* (Baker et al. 1988). It is known from the Peloncillo and Animas mountains in southwestern Hidalgo Co. (Cook 1986).

***Myotis auriculus* Baker and Stains 1955; Southwestern Myotis.**—The subspecies is *M. a. apache* Hoffmeister and Krutzsch 1955. It is a summer resident in the mountains of the southern two thirds of the state. It occurs north to Sandoval Co. in the Rio Grande Valley and northwest to Harding Co. (Geluso 2002).

***Myotis californicus* (Audubon and Bachman 1842); California Myotis.**—There are two subspecies. *M. c. californicus* (Audubon and Bachman 1842) occurs in southern New Mexico with northern limits at the Mogollon Plateau in the west, northeastern Sandoval Co. in the Rio Grande Valley, and Guadalupe and Quay counties at the northwestern edge of the Llano Estacado (Findley et al. 1975; Choate et al. 1991). *M. c. stephensi* Dalquest 1900 occurs in the San Juan Basin in San Juan and extreme northwestern Rio Arriba counties.

***Myotis ciliolabrum* (Merriam 1886); Western Small-footed Myotis.**—This species was formerly regarded as *M. subulatus* or *M. leibii* (van Zyll de Jong 1984, 1985). There are two subspecies. *M. c. melanorhinus* (Merriam 1890) occurs statewide except the Llano Estacado. *M. c. ciliolabrum* (Merriam 1886) has been reported from the northwestern edge of the Llano Estacado in Guadalupe and Quay counties (Choate et al. 1991; Choate 1997). This subspecies also is known from just north of the Colorado border in Las Animas and Baca counties (Armstrong 1972) and may occur in northeastern New Mexico (Bogan 1999).

***Myotis evotis* (H. Allen 1864); Long-eared Myotis.**—There are two subspecies (Manning 1993). *M. e. chrysonotus* (J. A. Allen 1896) occurs in the northern mountains including the San Juan, Sangre de Cristo, and Capulin ranges. *M. e. jonesorum* Manning 1993 occurs in the higher and larger mountains west of the Rio Grande north to the Chuska and Jemez mountains and south through the Mogollon Plateau.

***Myotis lucifugus* Le Conte 1831; Little Brown Myotis.**—The subspecies *M. l. carissima* Thomas 1904 has been reported from northern and northeastern New Mexico south to southeastern Sandoval Co. However, these identifications are now in question based on the finding that some specimens from southern Colorado are *M. occultus* (Valdez et al. 1999b; Piaggio et al. 2002).

***Myotis occultus* Hollister 1909; Arizona Myotis.**—This monotypic species was formerly recognized as a subspecies of *M. lucifugus* (Hoffmeister 1986; Piaggio et al. 2002; but see Valdez et al. 1999b). It occurs in southwestern New Mexico, east through the Sacramento Mountains and north to the Zuni and Sandia mountains (Hall 1981). Distributional limits are uncertain.

***Myotis thysanodes* Miller 1897; Fringed Myotis.**—The subspecies is *M. t. thysanodes* Miller 1897. It is a summer resident statewide except on the Llano Estacado.

***Myotis velifer* (J. A. Allen 1890); Cave Myotis.**—There are two subspecies that are permanent residents. *M. v. velifer* (J. A. Allen 1890) occurs in the southwestern portion of the state north to the Mogollon Plateau and San Mateo Mountains. This subspecies was formerly regarded as *M. v. brevis* Vaughan 1954 (Hayward 1970). *M. v. incautus* (J. A. Allen 1896) occurs in the southeastern quarter of the state north to Alamogordo in the Tularosa Basin and to northern Lincoln Co. in the Pecos River drainage on the piedmont of the Sacramento Mountains.

***Myotis volans* (H. Allen 1866); Long-legged Myotis.**—The subspecies is *M. v. interior* Miller 1914. It is a summer resident of mountainous regions statewide. Lower elevation records might be migrating individuals (Findley et al. 1975). It may winter in southern New Mexico as it does in southern Arizona (Hoffmeister 1986).

***Myotis yumanensis* (H. Allen 1864); Yuma Myotis.**—The subspecies is *M. y. yumanensis* (H. Allen 1864). It is a summer resident statewide except on the Llano Estacado.

***Pipistrellus hesperus* (H. Allen 1864); Western Pipistrelle.**—There are two subspecies of this year-round resident. *P. h. hesperus* (H. Allen 1964) generally occurs west of the Continental Divide, and *P. h. maximus* Hatfield 1936 generally occurs east of the Continental Divide (Findley and Traut 1970; Hall 1981). However, the precise border between the two subspecies is uncertain.

***Pipistrellus subflavus* (F. Cuvier 1832); Eastern Pipistrelle.**—The subspecies is *P. s. subflavus*

(F. Cuvier 1832). Keith Geluso captured the first specimen of this species in New Mexico from extreme eastern Union Co. in Fall 2003; details of the capture are being prepared for publication. The species potentially occurs in other areas of eastern New Mexico.

Family Molossidae (Free-tailed Bats)

***Eumops perotis* (Schinz 1821); Western Bonneted Bat.**—The subspecies is *E. p. californicus* (Merriam 1890). It is known from a single specimen collected during the summer at Guadalupe Canyon in the Peloncillo Mountains, Hidalgo Co. (Rowlett 1972).

***Nyctinomops femorosaccus* (Merriam 1889); Pocketed Free-tailed Bat.**—This monotypic species was formerly placed in the genus *Tadarida* (Freeman 1981). It is a summer resident known only from Carlsbad Cavern (Eddy Co.) and Guadalupe Canyon in the Peloncillo Mountains (Hidalgo Co.).

***Nyctinomops macrotis* (Gray 1839); Big Free-tailed Bat.**—This monotypic species was formerly placed in the genus *Tadarida* (Freeman 1981). It is a summer resident known from scattered localities west of the eastern plains and is a seasonal migrant statewide.

***Tadarida brasiliensis* (L. Geoffroy 1824); Brazilian Free-tailed Bat.**—The subspecies is *T. b. mexicana* (Saussure 1860). It is a summer resident known throughout the state.

ORDER PRIMATES—Primates Family Hominidae (Great Apes and Humans)

***Homo sapiens* Linnaeus 1758; Modern Man.**—This species occurs statewide.

ORDER CARNIVORA—Carnivores Family Canidae (Dogs, Foxes, and Wolves)

***Canis latrans* Say 1823; Coyote.**—There are four subspecies. *C. l. latrans* Say 1823 is known from Union Co. *C. l. lestes* Merriam 1897 occurs in north-central New Mexico in the vicinity of the San Juan and Sangre de Cristo mountains. *C. l. mearnsi* Merriam 1897 occurs in western New Mexico, west of the Rio Grande and Chama River. *C. l. texensis* Bailey 1905 occurs throughout most of eastern New

Mexico, east of the Rio Grande as far north as the Española area in the Rio Grande drainage, Cowles in the Pecos drainage, and northwestern Quay Co. Limits of this subspecies with *C. l. latrans* are uncertain.

***Canis lupus* Linnaeus 1758; Gray Wolf.**—

There are three subspecies (Bogan and Mehlhop 1983). *C. l. baileyi* Nelson and Goldman 1929 formerly occurred in mountainous areas throughout the southern two thirds of the state. This subspecies includes the formerly recognized *C. l. mogollonensis* Goldman 1937 and *C. l. monstrabilis* Goldman 1937 (Bogan and Mehlhop 1983), although Hoffmeister (1986) considered *C. l. mogollonensis* to belong to *C. l. youngi* Goldman 1937. *C. l. nubilus* Say 1823 formerly occurred on the eastern plains. *C. l. youngi* Goldman 1937 formerly occurred in the northwestern and north-central part of the state south to Mount Taylor. All subspecies were extirpated. A reintroduction program is currently reestablishing *C. l. baileyi* in west-central New Mexico.

***Urocyon cinereoargenteus* (Schreber 1775);**

Common Gray Fox.—The subspecies is *U. c. scottii* Mearns 1891. It occurs statewide.

***Vulpes macrotis* Merriam 1888; Kit Fox.**—The

subspecies is *V. m. neomexicana* Merriam 1902. It occurs throughout the lower elevations west of the Pecos River. One specimen was reported from the Llano Estacado (Lea Co.), which is in a region otherwise within the range of *V. velox* (Choate 1997). *V. macrotis* is sometimes considered a subspecies of *V. velox* (Dragoo et al. 1990, but see Mercure et al. 1993).

***Vulpes velox* (Say 1823); Swift Fox.**—The sub-

species is *V. v. velox* (Say 1823). It occurs throughout the plains east of the Pecos River.

***Vulpes vulpes* (Linnaeus 1758); Red Fox.**—

There are two subspecies. *V. v. macroura* Baird 1852 is native, and records are available from the San Juan, Sangre de Cristo, Sandia and San Andres mountains, as well as the San Juan River Basin (San Juan Co.). A specimen from eastern New Mexico (western Chaves Co.) also has been referred to this subspecies (Hall 1981). *V. v. fulva* (Desmarest 1820) occurs in eastern New Mexico. Many, or perhaps all, animals from the plains of eastern New Mexico might ultimately be the result of introductions in Texas (Choate 1997). In

addition, intentional introductions in eastern New Mexico have likely occurred. Records and reports are available from most eastern counties with concentrations on the Llano Estacado in Curry and Roosevelt counties, in the Pecos River Valley from Eddy Co. northward to at least De Baca Co., and from scattered localities in the northeast including Colfax and Union counties (Frey, in press; Jennifer Frey, unpublished data). Red fox occur in the vicinities of towns along Interstate Highway 40 west of Albuquerque. However, until specimens become available the subspecies designation of these populations remains unknown. This species is in need of taxonomic revision.

Family Felidae (Cats)

***Lynx canadensis* Kerr 1792; Canada Lynx.**—

The subspecies is *L. c. canadensis*. Although no historic specimens are available of the species in New Mexico, it undoubtedly was a member of the fauna (Jennifer Frey, unpublished manuscript). It occurred in adjacent areas of Colorado, and animals recently reintroduced into the San Juan Mountains in Colorado occasionally enter New Mexico. Its range undoubtedly included the San Juan and Sangre de Cristo mountains based on its occurrence in contiguous habitat in these ranges in adjacent areas of Colorado (Armstrong 1972).

***Lynx rufus* (Schreber 1777); Bobcat.**—There

are two subspecies. *L. r. baileyi* Merriam 1890 generally occurs west of the Continental Divide, while *L. r. texensis* J. A. Allen 1895 generally occurs east of the Continental Divide (Schmidly and Read 1986).

***Panthera onca* (Linnaeus 1758); Jaguar.**—

Findley et al. (1975) included this species in the genus *Felis*. The subspecies is *P. o. arizonensis* (Goldman 1932). Historical records are from scattered localities as far north as Springer (Bailey 1931; Findley et al. 1975; Brown and Lopez Gonzalez 2001). A record from Santa Fe is erroneous (Brown and Lopez Gonzalez 2001). Most records are from rugged country in the southern half of the state. Although thought to have been extirpated, recent observations of this species from southwestern New Mexico and adjacent Arizona suggest that it may be recolonizing its former range.

***Puma concolor* (Linnaeus 1771); Mountain**

Lion.—Findley et al. (1975) referred this species to

the genus *Felis*. There are two subspecies. *P. c. azteca* (Merriam 1901) occurs west of the eastern plains, while *P. c. stanleyana* (Goldman 1938) occurs throughout the eastern plains region. Range limits between the two subspecies are uncertain.

Family Mustelidae (Weasels, Otters, and Badgers)

***Gulo gulo* (Linnaeus 1758); Wolverine.**—The subspecies is *G. g. luscus* Sabine 1823. Although no specimens exist of the wolverine in New Mexico, Coues (1877) and Bailey (1931) considered it part of the state fauna. It undoubtedly occurred in the higher elevations of the San Juan and Sangre de Cristo mountains (Jennifer Frey, unpublished manuscript); the species has been reported from these mountains in adjacent areas of Colorado (Armstrong 1972). Although there are occasional unverified reports of wolverine in northern New Mexico (e.g., McDonald 1985), there have been no studies to determine the status of the species in the state.

***Lontra canadensis* (Schreber 1777); Northern River Otter.**—The subspecies is *L. c. sonora* Rhoads 1898. It has been reported from the Canadian, Gila, and upper Rio Grande river drainages. However, it probably historically occurred along most, if not all, permanent streams throughout the state. It may be extirpated.

***Martes americana* (Turton 1806); American Marten.**—The subspecies is *M. a. origenes* (Rhoads 1902). It occurs in the higher elevations of the San Juan and Sangre de Cristo mountains, and there is an observation from the Jemez Mountains (Charlie Painter, personal communication).

***Mustela erminea* Linnaeus 1758; Ermine.**—The subspecies is *M. e. muricus* (Bangs 1899). It has been verified from the San Juan, Jemez, and Sangre de Cristo mountains. Ivey (1957) reported a visual observation of this species from the Sandia Mountains; surveys are needed to substantiate this record.

***Mustela frenata* Lichtenstein 1831; Long-tailed Weasel.**—There are three subspecies. *M. f. arizonensis* (Mearns 1891) occurs on the Mogollon Plateau. *M. f. neomexicana* (Barber and Cockerell 1898) occurs statewide exclusive of the range of the

other two subspecies. *M. f. nevadensis* Hall 1936 is known from the Sangre de Cristo Mountains (Hall 1981), but its range also likely includes the San Juan Basin and the San Juan and Jemez mountains.

***Mustela nigripes* (Audubon and Bachman 1851); Black-footed Ferret.**—*M. nigripes* is monotypic. With the possible exception of the extreme southwestern part of New Mexico, it occurred statewide in association with towns of prairie dogs (*Cynomys* spp.). The species may be extirpated although Hubbard and Schmitt (1984) suggested that it might persist.

***Mustela vison* Schreber 1777; American Mink.**—The subspecies is *M. v. energumenos* (Bangs 1896). It historically occurred in association with permanent water throughout the northern half of the state. Some records may have been escapees from mink farms. It may be extirpated although there have been recent unverified reports of the species from wetlands along the central Rio Grande.

***Taxidea taxus* (Schreber 1777); American Badger.**—The subspecies is *T. t. berlandieri* Baird 1857. It occurs statewide.

Family Mephitidae (Skunks)

***Conepatus leuconotus* (Lichtenstein 1832); White-backed Hog-nosed Skunk.**—Dragoo et al. (2003) reassigned this form from *C. mesoleucus* to *C. leuconotus*. The subspecies is *C. l. leuconotus* (Lichtenstein 1832). It occurs throughout most of the southern half of New Mexico (north to Bernalillo Co.) with the exception of the Llano Estacado. Dragoo et al. (2003) synonymized two subspecies in New Mexico (*C. m. venaticus* Goldman 1922 and *C. m. mearnsi* Merriam 1902) within *C. l. leuconotus* that had formerly been recognized as subspecies of *C. mesoleucus*.

***Mephitis macroura* Lichtenstein 1832; Hooded Skunk.**—The subspecies is *M. m. milleri* Mearns 1897. It occurs in southwestern New Mexico from the Mogollon Plateau southward.

***Mephitis mephitis* (Schreber 1776); Striped Skunk.**—There are three subspecies. *M. m. estor*

Merriam 1890 occurs in western New Mexico, generally west of the Continental Divide. *M. m. hudsonica* Richardson 1829 occurs in the northern mountains (San Juan and Sangre de Cristo mountains) south to at least the Capitan Mountains. *M. m. varians* Gray 1837 occurs in eastern New Mexico and the Tularosa Basin. Animals from the San Luis Valley may belong to this subspecies based on its occurrence in adjacent Colorado (Armstrong 1972). Range limits of the subspecies are poorly defined.

***Spilogale gracilis* Merriam 1890; Western Spotted Skunk.**—Formerly, this form was included within *S. putorius* (Jones et al. 1992). There are two subspecies. *S. g. gracilis* Merriam 1890 occurs throughout the northern half of New Mexico, while *S. g. leucoparia* Merriam 1890 occurs in the southern half of the state. Range limits between the subspecies are poorly understood in New Mexico.

Family Procyonidae (Raccoons, Ringtails, and Coatis)

***Bassariscus astutus* (Lichtenstein 1830); Ringtail.**—There are two subspecies. *B. a. arizonensis* Goldman 1932 occurs in extreme southwestern New Mexico in Grant and Hidalgo counties (Hall 1981; Cook 1986). In addition, Hall (1981) considered the San Juan Basin as within the probable range of this subspecies, although apparently this was not based on specimens. *B. a. flavus* Rhoads 1894 occurs elsewhere statewide.

***Nasua narica* (Linnaeus 1766); White-nosed Coati.**—The subspecies is *N. n. molaris* Merriam 1902. It occurs in Hidalgo and Grant counties (Cook 1986).

***Procyon lotor* (Linnaeus 1758); Northern Raccoon.**—There are four subspecies. *P. l. fuscipes* Mearns 1914 is known from the eastern portion of the Llano Estacado in Texas and provisionally includes specimens from the New Mexico portion (Choate 1997; Frey, in press). *P. l. hirtus* Nelson and Goldman 1930 occurs in the extreme northeastern part of the state (Union and northeastern Colfax counties). *P. l. mexicanus* Baird 1857 occurs statewide exclusive of the range of the other subspecies. *P. l. pallidus* Merriam 1900 occurs in northwestern New Mexico in the Chuska Mountains and San Juan Basin.

Family Ursidae (Bears)

***Ursus americanus* Pallas 1780; American Black Bear.**—The subspecies is *U. a. amblyceps* Baird 1859. It occurs in mountainous areas throughout the state but also may be found at lower elevations on occasion (e.g., Frey, in press).

***Ursus arctos* Linnaeus 1758; Brown Bear.**—The subspecies is *U. a. horribilis* Ord 1815, often commonly called grizzly bear. Previously, Bailey (1931) recognized seven forms of brown bear in New Mexico including, *U. horriaeus*, *U. arizonae*, *U. nelsoni*, *U. texensis texensis*, *U. t. navaho*, *U. perturbans*, and *U. apache*. This species formerly occurred throughout New Mexico except perhaps southeastern New Mexico and portions of the Llano Estacado. It is now extirpated in the state.

ORDER PERISSODACTYLA—Odd-toed Ungulates
Family Equidae (Horses and Asses)

****Equus asinus* Linnaeus 1758; Feral Ass.**—This introduced animal formerly occurred in scattered free-ranging herds throughout the state, including a large herd in the vicinity of Bandelier National Monument in Sandoval Co. and a small herd in the Godfrey Hills area north of Three Rivers in southwestern Lincoln Co. (Jones and Schmitt 1997; Mike Howard, personal communication). Neither of these populations is currently extant. It is unknown if free-ranging herds currently occur in the state.

****Equus caballus* Linnaeus 1758; Feral Horse.**—This introduced animal formerly occurred in scattered free-ranging herds statewide. Currently, there are at least four viable, free-ranging herds that are managed on public lands in the state. These include the Bordo Atravado-Sierra Larga area east of Socorro (Socorro Co.), the northern portion of the Carson National Forest Jicarilla District in northwestern Rio Arriba Co., the vicinity of La Jarita Mesa on the Carson National Forest El Rito District (Rio Arriba Co.), and the vicinity of the Caja Del Rio Plateau west of Santa Fe (Santa Fe and Sandoval counties). Jones and Schmitt (1997) also reported them in San Juan Co. Managed herd areas on public lands that have been eliminated were found in the vicinity of Punche Valley in northwestern Taos Co. and the vicinity of Yeso and

Montosa mesas south of Canjilon in Rio Arriba Co. The former population of several hundred on White Sand Missile Range (see Jones and Schmitt [1997] for review) has been reduced to 10 males and is functionally extinct (Doug Burkett, personal communication).

ORDER ARTIODACTYLA—Even-toed Ungulates
Family Suidae (Pigs)

****Sus scrofa* Linnaeus 1758; Feral Pig.**—All free-ranging populations in New Mexico are presumably descendant from domestic forms, although there are unverified reports of unauthorized introductions of wild-type boar. It occurs in the southwestern corner of the state (Hidalgo Co.) and in scattered herds throughout much of eastern New Mexico, including the northeastern plains (Mora and Union counties), Canadian River drainage (Quay Co.), Pecos River Valley (De Baca and Chaves counties), Llano Estacado (Roosevelt Co.), and Sacramento Mountains (Lincoln and Otero counties; Frey, in press; Jennifer Frey, unpublished data; Findley 1987).

Family Tayassuidae (Peccaries)

***Pecari tajacu* (Linnaeus 1758); Collared Peccary.**—This species was formerly placed in the family Dicotylidae and the genera *Dicotyles* and *Tayassu* (Wilson and Reeder 1993). There are two subspecies. *P. t. angulatus* (Cope 1889) occurs in the extreme southeastern corner west to Carlsbad Caverns National Park (Lea and Eddy counties). *P. t. sonoriensis* (Mearns 1897) has recently expanded its range from southwestern New Mexico north to McKinley and Socorro counties (Albert et al., in press).

Family Cervidae (Deer)

****Alces alces* (Linnaeus 1758); Moose.**—This species was introduced to the San Juan Mountains in southwestern Colorado. Individuals stemming from these introductions occasionally enter northern New Mexico in Rio Arriba and Taos counties. No resident population is established in the state.

***Cervus canadensis* Erxleben 1777; Elk.**—This species was recognized as distinct from *C. elaphus* Linnaeus 1758 by Randi et al. (2001). Two native subspecies have been documented by specimens. *C. c. merriami* Nelson 1902 formerly occurred through-

out the southern portion of the state, north to at least the Manzano and Datil mountains. This form is extinct, and introduced elk of other subspecies now occupy its historic range. *C. c. nelsoni* V. Bailey 1935 occurred in the northern mountains (San Juan, Jemez, Sangre de Cristo). Although once extirpated, this subspecies has been reestablished through introductions. An established population in Union Co. is introduced *C. c. nelsoni* from northwestern Colorado (Jones et al. 1988). This is within the probable historical range of a third subspecies, *C. c. canadensis* Erxleben 1777, which likely occurred in the northeastern corner of the state.

***Odocoileus hemionus* (Rafinesque 1817); Mule Deer.**—There are two subspecies. *O. h. crooki* (Mearns 1897) occurs throughout the southern third of the state; it occurs as far north as Hell Canyon in the Manzano Mountains (Hall 1981). Choate (1997) assigned animals from the Llano Estacado to this subspecies, in part due to introductions from farther south in Texas, but acknowledged the possible influence of *O. h. hemionus* in the northwestern portion. *O. h. hemionus* (Rafinesque 1817) occurs north of the range of *O. h. crooki*; it reaches its southern limits in the Sacramento Mountains on the east side of the Rio Grande and Mogollon Mountains on the west. The taxonomy of mule deer from northeastern New Mexico is questionable because introductions of *O. h. crooki* were made into the northern Texas panhandle (Jones et al. 1988). Contemporary subspecific boundaries may not be reflective of historical distributions due to introductions (Choate 1997).

***Odocoileus virginianus* (Zimmermann 1780); White-tailed Deer.**—There are two subspecies. *O. v. couesi* (Coues and Yarrow 1875) occurs in the mountains of west-central and southwestern New Mexico. However, it may have formerly ranged as far north as the Zuni Mountains (Bailey 1931). *O. v. texanus* (Mearns 1898) occurs in the Sangre de Cristo and Sacramento mountains, as well as scattered locations throughout the eastern plains and Llano Estacado, especially in the sandhills region (Chaves, Lea, and Roosevelt counties); along the middle and lower Pecos River; and in the northeastern plains (Frey, in press; Jennifer Frey, unpublished data). The species may have historically occurred in the upper Chama River drainage (Findley et al. 1975) and middle Rio Grande (Emory 1848).

Family Antilocapridae (Pronghorn)

***Antilocapra americana* (Ord 1815); Pronghorn.**—There are two subspecies. *A. a. americana* (Ord 1815) occurs throughout the northern and south-eastern portions of the state. *A. a. mexicana* Merriam 1901 occurs in the southwestern quarter of the state as far north as Socorro, Socorro Co. Introductions may have obscured contemporary subspecific boundaries (see Russell [1964] for review).

Family Bovidae (Cattle, Antelopes, Sheep,
and Goats)
Subfamily Bovinae

***Bos bison* Linnaeus 1758; American Bison.**—Formerly, this species was classified in the genus *Bison* (Groves 1981; Miyamoto et al. 1989). The subspecies is *B. b. bison* Linnaeus 1758. It was historically common throughout eastern New Mexico, especially east of the Pecos River. Although specimens are absent from the western part of the state, the species occasionally may have been found in that region (Truett 1996). Although bison were extirpated in the wild, several captive or semi-captive herds occur in New Mexico.

Subfamily Caprinae

****Ammotragus lervia* (Pallas 1777); Aoudad.**—This species, also commonly called Barbary sheep, was originally introduced into the Hondo River Valley (Lincoln Co.), Canadian River gorge (i.e., Mills Canyon of Mora and Harding counties), and Largo Canyon (San Juan Co.; Ogren 1962, 1965; Burt and Lee 1967). Due to the spread of the original population and escaped individuals from captive herds in other areas of the state, its range has expanded. Currently, the largest populations are located in southeastern New Mexico in the vicinity of the Hondo River Valley and the Guadalupe Mountains and hills to the west of this range in Chaves, Eddy, and Otero counties (Darrel Weybright, personal communication). The species is thought to persist in remote areas of Largo Canyon but is thought to be absent from the Canadian River gorge. It also has been reported from the San Andres, Manzano, and Mount Taylor mountains and portions of Socorro and Otero counties (NMDGF 2000; Darrel Weybright, personal communication). Distributional limits are uncertain.

****Capra hircus* Linnaeus 1758; Goat.**—This species includes both the ancestral wild-type goat (commonly called Persian ibex or Bezoar goat) and the domesticated form; the wild-type is sometimes referred to as *C. aegagrus* (Wilson and Reeder 1993). A population of wild-type goat was introduced to the Florida Mountains, Luna Co. (Jones and Schmitt 1997). Although no established population occurs outside these mountains, during population peaks goats occasionally have been observed in the Little Florida, Cedar, Tres Hermanas, and Cooke's Range mountains in Luna Co.; the Alamo Hueco Mountains in Hidalgo Co.; and the West Potrillo and East Potrillo mountains in Doña Ana Co. (Pat Mathis, personal communication; Darrel Weybright, personal communication; Schmitt and Jones 1997). Findley (1987) also reported this species in the Mimbres and Doña Ana mountains, although at least those in the Doña Ana Mountains were likely domestic goats (John Barnitz, personal communication). Feral populations of domestic goat occur, or historically occurred, in many desert mountain ranges, primarily in the southern half of the state including Chaves, Doña Ana, Eddy, Lincoln, Luna, Otero, Sandoval, Sierra, and Socorro counties (Findley 1987; Jennifer Frey, unpublished data). Hybrid Persian x domestic goats were released in western Sierra Co.; it is unknown if they persist (Eric Rominger, personal communication; Pat Mathis, personal communication).

****Capra sibirica* (Pallas 1776); Siberian Ibex.**—This species was introduced into the Canadian River Canyon of Harding and Mora counties (Jones and Schmitt 1997). The population is thought to be extinct (Jones and Schmitt 1997).

****Hemitragus jemlahicus* (H. Smith 1826); Himalayan Tahr.**—This species was introduced to Mount Taylor where a small, free-ranging herd persists (NMDGF 2000).

****Ovis aries* Linnaeus 1758; European Mouflon Sheep.**—This name applies to both a wild sheep from western Asia (which is the primitive progenitor of the domestic sheep) and the modern domestic sheep (Wilson and Reeder 1993). Free-ranging herds occur in several areas of southeastern New Mexico including north and east of Roswell (Chaves Co.), northwestern Eddy Co., the vicinity of the border between Lincoln and DeBaca counties, the Hondo River drainage (Lincoln Co.), and east-central Otero Co. Several

escaped from captivity in central Socorro Co., but these are thought to have not survived (Eric Rominger, personal communication).

***Ovis canadensis* Shaw 1804; Bighorn Sheep.**—There are two subspecies. *O. c. canadensis* Shaw 1804 historically occurred in the San Juan, Jemez, and Sangre de Cristo mountains. It was introduced into additional locations outside of its historical range such as on the Mogollon Plateau. *O. c. mexicana* Merriam 1901 historically occurred in the mountains south of the range of *O. c. canadensis*. Historic range limits between these subspecies are uncertain. Reintroduction of both subspecies has led to the establishment of new populations within their historical ranges.

Subfamily Hippotraginae

****Oryx gazella* (Linnaeus 1758); Gemsbok.**—This species, also commonly called oryx, was introduced on White Sands Missile Range in the Tularosa Basin (Reid and Patrick 1983). Its range has expanded beyond the Missile Range and Tularosa Basin. It occurs north of US Highway 380 in Socorro Co.; south into El Paso Co., Texas; east to Crow Flats in Otero Co.; and west of the Rio Grande to near the Black Range (Jones and Schmitt 1997; Doug Burkett, personal communication; Darrel Weybright, personal communication). Its range in New Mexico includes portions of Doña Ana, Lincoln, Otero, Sierra, and Socorro counties (NMDGF 2000; Doug Burkett, personal communication).

ORDER RODENTIA—Rodents Family Sciuridae (Squirrels)

***Ammospermophilus harrisi* (Audubon and Bachman 1854); Harris's Antelope Squirrel.**—The subspecies is *A. h. harrisi* (Audubon and Bachman 1854). It has been verified from the vicinity of Redrock (Grant Co.) and the Animas and Peloncillo mountains (Hidalgo Co.; Findley et al. 1975; Cook 1986). It has been observed in the Alamo Hueco Mountains in southeastern Hidalgo Co. (Jennifer Frey, personal observation).

***Ammospermophilus interpres* (Merriam 1890); Texas Antelope Squirrel.**—The species is monotypic. It occurs in foothills east of the Rio Grande as far east as the Guadalupe Mountains in Eddy Co. (Geluso and

Geluso, in press) and as far north as the Sandia Mountains in Sandoval Co.

***Ammospermophilus leucurus* (Merriam 1889); White-tailed Antelope Squirrel.**—The subspecies is *A. l. pennipes* A. H. Howell 1931. It occurs west of the Rio Grande in the San Juan Basin and drainages of the Rio Puerco and Rio Grande north of central Socorro Co.

***Cynomys gunnisoni* (Baird 1855); Gunnison's Prairie Dog.**—There are two subspecies. *C. g. gunnisoni* (Baird 1855) occurs in the San Juan, Jemez, and Sangre de Cristo mountains. *C. g. zuniensis* Hollister 1916 occurs south and west of the range of *C. g. gunnisoni* east to extreme western San Miguel Co. and south to northwestern Sierra Co. and southern Catron Co.

***Cynomys ludovicianus* (Ord 1815); Black-tailed Prairie Dog.**—There are two subspecies. *C. l. arizonensis* Mearns 1890 occurs in southwestern New Mexico, while *C. l. ludovicianus* (Ord 1815) occurs in eastern New Mexico. There is uncertainty about the location and nature of the contact zone between these subspecies. Traditionally, the Pecos River has been depicted as the boundary between the two forms (Hall 1981). However, Hansen (1977) found specimens from the Tularosa Basin to be subspecifically distinct based on morphology. In contrast, Chesser (1983) concluded that no subspecific designations were warranted. Additional studies are needed to resolve subspecific distributions in this species. Natural populations of the species are extirpated west of the Rio Grande.

***Marmota flaviventris* (Audubon and Bachman 1841); Yellow-bellied Marmot.**—There are two subspecies. *M. f. luteola* A. H. Howell 1914 occurs in the San Juan Mountains and was reported from the upper San Juan River Valley, San Juan Co. (Durrant and Dean 1961; Harris 1963). *M. f. obscura* A. H. Howell 1914 occurs in the Sangre de Cristo Mountains. The current status of this species in the state is unknown.

***Neotamias canipes* (V. Bailey 1902); Gray-footed Chipmunk.**—There are two subspecies. *N. c. canipes* (V. Bailey 1902) occurs in the Guadalupe Mountains, Eddy Co. (Patterson 1980). *N. c. sacramentoensis* Fleharty 1960 occurs in the Sacra-

mento Mountains, Lincoln, and Otero counties. Populations in the Gallinas, Jicarilla, and Capitan mountains and in the vicinity of the Carrizozo lava field (Lincoln Co.) have not been assigned to subspecies (Fleharty 1960; Patterson 1980), although some range maps include these populations (except that from the Carrizozo lava field) in *N. c. canipes* (Hall 1981).

***Neotamias cinereicollis* (J. A. Allen 1890); Gray-collared Chipmunk.**—There are two subspecies. *N. c. cinereicollis* (Allen 1890) occurs on the Mogollon Plateau west of the San Francisco River (Catron Co.). A specimen from the southern edge of the Mogollon Plateau on the lower Mimbres River (Grant Co.) also was assigned to this taxon (Hall 1981). *N. c. cinereus* Bailey 1913 occurs throughout the higher elevations of the Mogollon Plateau east of the San Francisco River and in the Magdalena and San Mateo mountains.

***Neotamias dorsalis* Baird 1855; Cliff Chipmunk.**—The subspecies is *N. d. dorsalis* (Baird 1855). It occurs in the middle to higher elevations west of the Rio Grande excluding the San Juan Basin and the San Juan and Jemez mountains. Barber (1902) reported a specimen from the Sandia Mountains (Bernalillo Co.), but this may be erroneous (Jennifer Frey, unpublished data).

***Neotamias minimus* Bachman 1839; Least Chipmunk.**—There are three subspecies (Sullivan and Petersen 1988). *N. m. atristriatus* Bailey 1913 occurs in the Sacramento Mountains (including White Mountains; Sullivan and Petersen 1988; but see Conley 1970) although the population at James Canyon in the Sacramento Mountains (Otero Co.) may be extinct. *N. m. chuskaensis* Sullivan and Petersen 1988 occurs in the Chuska Mountains. *N. m. operarius* Merriam 1905 occurs in the San Juan, Jemez, Sangre de Cristo, and Sandia mountains.

***Neotamias quadrivittatus* (Say 1823); Colorado Chipmunk.**—There are three subspecies (Sullivan 1996). *N. q. australis* (Patterson 1980) occurs in the Organ Mountains, Doña Ana Co. *N. q. oscuraensis* Sullivan 1996 occurs in the Oscura Mountains, Lincoln and Socorro counties. *N. q. quadrivittatus* (Say 1823) occurs in the mountains and mesas of northern New Mexico south to the Manzano and Zuni mountains and southeast to Quay Co. (Patterson 1984).

***Sciurus aberti* Woodhouse 1853; Abert's Squirrel.**—There are three subspecies (Hoffmeister and Diersing 1978; Wettstein et al. 1995). *S. a. aberti* Woodhouse 1853 occurs at higher elevations west of the Rio Grande from the Mogollon Plateau north through the Zuni and Mount Taylor mountains. *S. a. chuscensis* Goldman 1931 occurs in the Chuska Mountains in McKinley and San Juan counties. *S. a. ferreus* True 1900 occurs in the north-central mountains including the San Juan, Jemez, and Sangre de Cristo mountains west to Union Co. (Dalquest et al. 1990). Hall (1981) recognized these populations as *S. a. mimus* Merriam 1904, which was subsequently synonymized by Hoffmeister (1986). Populations from east of the Rio Grande in the Sandia and Manzano mountains are the result of introductions (Davis and Brown 1988) and are probably referable to *S. a. aberti*. An introduction to the Sacramento Mountains apparently failed (Davis and Brown 1988).

***Sciurus arizonensis* Coues 1867; Arizona Gray Squirrel.**—The subspecies is *S. a. arizonensis* Coues 1867, although Hoffmeister (1986) regarded *S. arizonensis* as monotypic. It has been verified from the San Francisco River drainage (Catron Co.) and has been reported from the Gila (Catron Co.) and Mimbres (Grant Co.) drainages (Charlie Painter, personal communication; Jim Stuart, personal communication).

***Sciurus niger* Linnaeus 1758; Eastern Fox Squirrel.**—The subspecies is *S. n. rufiventer* E. Geoffroy St.-Hilaire 1803. A probable natural population of this subspecies occurs in Raton, Colfax Co. (Geluso, in press a). Introduced populations of unknown subspecies occur in towns on the Llano Estacado (Lea Co.), and in urban and riparian areas in the Pecos River drainage of Chaves, Eddy, and Lincoln counties (Frey and Campbell 1997). Introductions in Clovis, Curry Co., were apparently unsuccessful. A specimen from Roswell, Chaves Co., resembled *S. n. limitis* Baird 1855 from the western limit of that subspecies' range in the Pecos Valley of Terrell Co., Texas (Findley et al. 1975).

***Spermophilus lateralis* (Say 1823); Golden-mantled Ground Squirrel.**—There are two subspecies. *S. l. arizonensis* (V. Bailey 1913) occurs on the Mogollon Plateau. *S. l. lateralis* (Say 1823) occurs in the San Juan, Jemez, Sangre de Cristo, and Chuska mountains.

***Spermophilus mexicanus* (Erxleben 1777); Mexican Ground Squirrel.**—The subspecies is *S. m. parvidens* Mearns 1896. It occurs in extreme southeastern New Mexico (Lea Co.) and the lower Pecos River Valley in Eddy Co. north to central Chaves Co. Its distribution in Texas suggests it may have a slightly wider distribution in New Mexico. In Texas it has been collected from El Paso (Hall 1981) and the southern Llano Estacado (Jones et al. 1987). Schmidly (1977) discounted the El Paso record. Hybrids between *S. m. parvidens* and *S. tridecemlineatus* have been found in Lea Co. (Cothran et al. 1977).

***Spermophilus spilosoma* Bennett 1833; Spotted Ground Squirrel.**—There are three subspecies. *S. s. canescens* Merriam 1890 occurs in the extreme southwestern part of New Mexico in Hidalgo and Grant counties. *S. s. cryptospilotus* Merriam 1890 occurs in the San Juan River Basin. *S. s. marginatus* V. Bailey 1902 occurs elsewhere statewide in suitable low-elevation habitats.

***Spermophilus tridecemlineatus* (Mitchill 1821); Thirteen-lined Ground Squirrel.**—This species is in need of taxonomic revision in the Southwest. As currently understood, there are at least three subspecies. *S. t. arenicola* (A. H. Howell 1928) occurs throughout the lower elevations east of the Sangre de Cristo-Sandia-Gallinas-Sacramento chain of mountains. The southernmost record of this subspecies in New Mexico is from the Llano Estacado in central Lea Co., where it is known to hybridize with *S. mexicanus* (Cothran et al. 1977). *S. t. hollisteri* (V. Bailey 1913) occurs in the Sangre de Cristo and Sacramento mountains. It is unknown if populations in the Sacramento Mountains persist. *S. t. monticola* (A. H. Howell 1928) occurs in appropriate habitat throughout the Mogollon Plateau of west-central New Mexico, including peripheral areas such as the San Augustin Plains and Zuni Mountains (Hoffmeister 1986; Frey, unpublished data). It has been reported from grasslands near the summit of Mount Taylor, Cibola Co. (Troy Best, personal communication). A specimen from the southern San Luis Valley (Taos Co.) is of uncertain taxonomic status. Findley et al. (1975) noted that it had affinities with *S. t. blanca* Armstrong 1971, which was described from the San Luis Valley in adjacent Colorado, although Hall (1981) regarded this specimen as *S. t. hollisteri*. Bailey (1931) reported a specimen from Tierra Amarilla, Rio Arriba Co. This is the only specimen known from

northern New Mexico or southern Colorado west of the San Juan Mountains (Armstrong 1972; Findley et al. 1975). Geographically, this specimen may be referable to *S. t. parvus* J. A. Allen 1895, *S. t. blanca*, or *S. t. monticola*. This species was reported from Doña Ana Co. (Baird 1857). If accurate, this population is of unknown subspecific status, but is almost certainly extinct.

***Spermophilus variegatus* (Erxleben 1777); Rock Squirrel.**—There are two subspecies. *S. v. tularosae* (Benson 1932) is restricted to the Carrizozo lava field in Lincoln and Otero counties. *S. v. grammurus* (Say 1823) occurs elsewhere statewide except for the Llano Estacado, where it is known only from the northwestern edge in Quay Co. (Choate et al. 1991).

***Tamiasciurus hudsonicus* (Erxleben 1777); Red Squirrel.**—There are three subspecies. *T. h. fremonti* (Audubon and Bachman 1853) has been reported from Chama (Rio Arriba Co.) in the northern San Juan mountains (Allen 1898; Bailey 1931). Armstrong (1972) reported it in the Colorado portion of the Sangre de Cristo Mountains in addition to the San Juan Mountains. Distributional limits of this subspecies are uncertain. Arbogast et al. (2001) included this subspecies within a wide-ranging *T. h. hudsonicus*. *T. h. mogollonensis* (Mearns 1890) occurs in the higher and larger mountains in the state exclusive of the range of the other subspecies. In addition, it does not occur in the Magdalena Mountains, and a record from the Zuni Mountains may be erroneous. *T. h. lychnuchus* (Stone and Rehn 1903) occurs in the Capitan and Sacramento mountains (Lincoln and Otero counties). Findley (1961) considered populations from Mount Taylor (Cibola Co.) and the San Mateo Mountains (Socorro Co.) distinct enough to warrant subspecific designation, but this has not been done. Although Arbogast et al. (2001) found that populations of red squirrel from the southwestern USA, including New Mexico, were distinct from other populations and could be recognized as a separate phylogenetic species, *T. fremonti*, I have not followed that arrangement until additional supportive data are available.

Family Castoridae (Beavers)

***Castor canadensis* Kuhl 1820; American Beaver.**—There are five subspecies. *C. c. concisor* War-

ren and Hall 1939 was reported from the east slope of the Cimarron Range in the upper Canadian River drainage, Colfax Co. (Hall 1981). The limits of this subspecies are not understood. *C. c. frondator* Mearns 1897 occurs in the Colorado River drainage (e.g., San Juan, Little Colorado, San Francisco and Gila river drainages). *C. c. mexicanus* Bailey 1913 occurs in the Rio Grande and Pecos River drainages. *C. c. missouriensis* V. Bailey 1919 occurs in the Dry Cimarron and North Canadian river drainages. *C. c. texensis* V. Bailey 1905 occurs in the Canadian River drainage, with the exception of the range of *C. c. concisor*.

Family Geomyidae (Pocket Gophers)

***Cratogeomys castanops* (Baird 1852); Yellow-faced Pocket Gopher.**—This species was formerly placed in the genus *Pappogeomys* (Demastes et al. 2002). There are four subspecies (Hollander 1990). *C. c. hirtus* Nelson and Goldman 1934 is known only from specimens collected in Albuquerque, Bernalillo Co. This population may be extinct. However, this subspecies probably applies to all animals, including relatively recent captures, from the plain bounded by the Rio Grande in the west and the Sandia-Manzano-Los Pinos mountains in the east. *C. c. parviceps* (Russell 1968) occurs in the Tularosa Basin and west to the western slope of the San Andres Mountains in Sierra Co. Recently obtained specimens of this species from the central Jornada del Muerto and Fra Cristobal Mountains in central Sierra Co. may be referable to this subspecies (Jennifer Frey, unpublished data). *C. c. perplanus* Nelson and Goldman 1934 occurs in eastern New Mexico on the Llano Estacado and in the eastern portion of the Arkansas River drainage (Hollander 1990). *C. c. lacrimalis* Nelson and Goldman 1934 occurs in the lower Pecos River drainage north to central Guadalupe Co., east to the western portion of the Llano Estacado, south to southeastern Lea Co., and west to western Chaves Co. (Hollander 1990; Choate 1997). *C. c. perplanus* and *C. c. lacrimalis* intergrade near Maljamar, Lea Co. (Hollander 1990).

***Geomys arenarius* Merriam 1895; Desert Pocket Gopher.**—There are two subspecies. *G. a. arenarius* Merriam 1895 occurs in the lower Rio Grande Valley (Doña Ana Co.) west through the eastern Deming Plain (Luna Co.). *G. a. brevirostris* Hall 1932 occurs on the White Sands dune field of the Tularosa Basin

(Otero Co.), the northern Jornada del Muerto (Socorro Co.), and the area between Chupadera Mesa and Mesa de los Jumanos (Socorro Co.). Although some studies (Hafner and Geluso 1983; Mauk et al. 1999) have suggested that this species should be synonymized under *G. bursarius*, new mitochondrial DNA and ectoparasite (chewing louse) evidence indicates that *G. arenarius* is a distinct species and supports the existence of two subspecies within it (David Hafner, personal communication; see also Qumsiyeh et al. 1988).

***Geomys bursarius* (Shaw 1800); Plains Pocket Gopher.**—There are two subspecies. Range limits of this species are poorly understood. *G. b. jugossicularis* Hooper 1940 occurs in extreme northeastern New Mexico (Union Co.). *G. b. major* Davis 1940 occurs on the plains in east-central New Mexico north to Union Co. and south to southern Roosevelt Co.

***Geomys knoxjonesi* Baker and Genoways 1975; Knox Jones's Pocket Gopher.**—This species was formerly regarded as a subspecies of *G. bursarius* (Baker et al. 1989; Bradley et al. 1991). The species is monotypic. Distributional limits in New Mexico are unclear. It occurs in southeastern New Mexico (DeBaca, Roosevelt, Chaves, Eddy, and Lea counties) west to the Pecos River Valley and north to near the midpoint of the border between DeBaca and Roosevelt counties (Baker and Genoways 1975; Pembleton and Baker 1978).

***Thomomys bottae* (Eydoux and Gervais 1836); Botta's Pocket Gopher.**—There are 21 subspecies. *T. b. actuosus* Kelson 1951 occurs east of the Rio Grande Valley from the southern Sangre de Cristo Mountains (southwest Mora Co.), south to the Capitan and San Andres mountains (Lincoln and Doña Ana counties). *T. b. allenus* Goldman 1938 occurs in the lower Gila River Valley west of the vicinity of Redrock. *T. b. aureus* Allen 1893 occurs in the San Juan River Basin, North Plains, and Plains of San Agustin. *T. b. collis* Hooper 1940 occurs in the northeast region of the North Plains, Cibola Co., east of the Grants lava field and west of Cebollita Mesa; Hooper (1940) suggested that it might occur south to the Datil Mountains, Catron Co. *T. b. connectens* Hall 1936 occurs in the middle Rio Grande Valley from southeastern Sandoval Co. south to northern Socorro Co. and as far west as Laguna, Cibola Co. *T. b. cultellus* Kelson 1951 occurs in the northeastern portion (Colfax, Union,

and northwest Mora counties). *T. b. fulvus* (Woodhouse 1852) occurs on the Mogollon Plateau and north to the Magdalena Mountains in the east and the Zuni Mountains in the west, exclusive of the range of *T. b. aureus*. *T. b. guadalupensis* Goldman 1936 occurs in the higher elevations of the Guadalupe Mountains, Eddy Co. *T. b. lechuguilla* Bailey 1902 occurs in the southern Tularosa Basin from Alamogordo southwest to the Rio Grande in the vicinity of El Paso, Texas. *T. b. mearnsi* Bailey 1914 occurs in the Animas Mountains and adjacent Animas Valley, Hidalgo Co. (Cook 1986). *T. b. morulus* Hooper 1940 occurs in the extreme southeast foothills of the Zuni Mountains and southward to the Grants Malpais lava field. *T. b. opulentus* Goldman 1935 occurs in the lower Rio Grande Valley from northern Socorro Co. south to southern Doña Ana Co. *T. b. paguatae* Hooper 1940 occurs in the vicinity of Cebolleta, Cibola Co. on the Rio Paguata on the southeast side of Mount Taylor. *T. b. pectoralis* Goldman 1936 occurs along the southeast base of the Guadalupe Mountains in the vicinity of Carlsbad Cavern and Rattlesnake Spring, Eddy Co. *T. b. peramplus* Goldman 1931 occurs in the Chuska Mountains, San Juan and McKinley counties. *T. b. pervagus* Merriam 1901 occurs from southeast Sandoval Co. northward in the upper Rio Grande and lower Chama River valleys. *T. b. planorum* Hooper 1940 occurs in the vicinity of Mount Taylor; it is known from San Mateo southward along the east side of the Grants lava field to 11 miles SSE of Grants (Hooper 1940). *T. b. rufidulus* Hoffmeister 1953 occurs in the Puerco River drainage from Gallup, McKinley Co. westward into Arizona. *T. b. ruidosae* Hall 1932 occurs in the Sacramento Mountains (including the White Mountains) in Lincoln and Otero counties. *T. b. toltecus* Allen 1893 occurs west of the Rio Grande Valley and south of the Mogollon Plateau exclusive of the range of *T. b. mearnsi*. *T. b. tularosae* Hall 1932 occurs in the Tularosa Basin east of the White Sands dune field south to Alamogordo.

***Thomomys talpoides* (Richardson 1828); Northern Pocket Gopher.**—There are two subspecies. *T. t. fossor* J. A. Allen 1893 occurs in the Chuska, San Juan, Jemez, and Sangre de Cristo mountains. *T. t. taylori* Hooper 1940 occurs on Mount Taylor, Cibola Co.

***Thomomys umbrinus* (Richardson 1829); Southern Pocket Gopher.**—The subspecies is *T. u.*

emotus Goldman 1933. It has been verified only from the Animas Mountains, Hidalgo Co. (Hinesley and Thaler 1977). However, it is possible that the species may occur on other isolated mountain ranges in southwestern New Mexico. Additional surveys are warranted.

Family Heteromyidae (Pocket Mice and Kangaroo Rats)

***Chaetodipus baileyi* Merriam 1894; Bailey's Pocket Mouse.**—The subspecies is *C. b. baileyi* (Merriam 1894). It is known from the Peloncillo Mountains, Hidalgo Co., and southern Grant Co. (Bruce Hayward, personal communication).

***Chaetodipus eremicus* (Mearns 1898); Chihuahuan Desert Pocket Mouse.**—This form was formerly considered a subspecies of *C. penicillatus* (Lee et al. 1996). The subspecies is *C. e. eremicus* (Mearns 1898). It occurs in southern New Mexico east of the Continental Divide. It occurs as far north as Elephant Butte Lake (Sierra Co.) in the Rio Grande drainage, Tularosa in the Tularosa basin (Otero Co.), and Carlsbad in the Pecos River drainage.

***Chaetodipus hispidus* (Baird 1857); Hispid Pocket Mouse.**—The subspecies is *C. h. paradoxus* (Merriam 1889). It occurs in the southwestern part of the state south of the Mogollon Plateau and in the eastern part of the state west to the Rio Grande.

***Chaetodipus intermedius* (Merriam 1889); Rock Pocket Mouse.**—There are four subspecies. *C. i. ater* (Dice 1929) occurs on the Carrizozo lava field (Lincoln and Otero counties). *C. i. beardi* (Weckerly et al. 1988) occurs on the Pedro Armendariz lava field (Sierra and Socorro counties). *C. i. intermedius* (Merriam 1889) occurs in southwestern New Mexico. Its distribution extends north to southern Catron Co. below the Mogollon Plateau and north to Sandoval Co. in the Rio Grande drainage; it occurs west to the Alamo Mountains in south-central Otero Co. *C. i. rupestris* (Benson 1932) occurs on the Afton lava field (Doña Ana Co.; Elder 1977).

***Chaetodipus nelsoni* (Merriam 1894); Nelson's Pocket Mouse.**—The subspecies is *C. n. canescens* (Merriam 1894). Thus far, all records are from Carlsbad Cavern National Park in Eddy Co. (Webb 1954; Geluso and Geluso, in press).

***Chaetodipus penicillatus* (Woodhouse 1852); Sonoran Desert Pocket Mouse.**—The subspecies is *C. p. pricei* (J. A. Allen 1894). It occurs west of the Continental Divide in Hidalgo Co. and southern Grant Co. (Hoffmeister and Lee 1967; Lee et al. 1996).

***Dipodomys merriami* Mearns 1890; Merriam's Kangaroo Rat.**—There are two subspecies. *D. m. ambiguus* Merriam 1890 occurs in the Rio Grande Valley north to southern Sandoval Co., the Tularosa Basin, and the Pecos River Valley north to northern De Baca Co. (Salb 1974). *D. m. olivaceus* Swarth 1929 occurs in the southwestern corner of the state east to Deming (Luna Co.) and north to the Mogollon Plateau.

***Dipodomys ordii* Woodhouse 1853; Ord's Kangaroo Rat.**—There are five subspecies. *D. o. longipes* (Merriam 1890) occurs in the northwestern quarter of the state, south to the Mogollon Plateau and east to the Rio Grande Valley. *D. o. medius* Setzer 1949 occurs east of the Pecos River and south of the Canadian River, as well as westward to the Rio Grande between northern Socorro Co. and southern Rio Arriba Co. *D. o. montanus* Baird 1855 occurs in the San Luis Valley. In addition, a specimen from near Cimarron, Colfax Co. was assigned to this subspecies (Hall 1981). *D. o. ordii* Woodhouse 1853 occurs in the southwestern and south-central portion of the state, north to southern Torrance Co. and east to the Pecos River. *D. o. richardsoni* (J. A. Allen 1891) occurs in the northeastern corner of New Mexico south to the Canadian River.

***Dipodomys spectabilis* Merriam 1890; Banner-tailed Kangaroo Rat.**—There are three subspecies. *D. s. baileyi* Goldman 1923 occurs throughout the southern two thirds of the state with the exception of the range of the other two subspecies (Frey and Burt 2001). Its northern limits are at Santa Fe, Santa Fe Co., and in the Pecos River Valley in central Guadalupe Co. *D. s. clarencei* Goldman 1933 occurs in the San Juan River Basin. Harris (1965) considered this subspecies indistinguishable from *D. s. baileyi*. *D. s. spectabilis* Merriam 1890 occurs in the southwestern corner east to the Rio Grande Valley and north to the Mogollon Plateau.

***Perognathus apache* Merriam 1889; Apache Pocket Mouse.**—This species is sometimes synonymized in *P. flavescens* (e.g., Findley et al. 1975; Will-

iams 1978; Hall 1981; but see Hoffmeister 1986). There are two subspecies (see Williams [1978] for geographic distribution). *P. a. caryi* Goldman 1918 occurs in the northwestern part of the state east to the upper Pecos River Valley and south to the Rio Grande in southern Socorro Co. *P. a. melanotis* Osgood 1900 occurs in south-central and extreme southwestern New Mexico east to the Tularosa Basin and north to the Mogollon Plateau, San Agustin Plains, and southwestern Torrance Co. Williams (1978) synonymized *P. a. gypsi* Dice 1929 from the White Sands dune field in the Tularosa Basin with this subspecies.

***Perognathus flavescens* Merriam 1889; Plains Pocket Mouse.**—The subspecies is *P. f. copei* Rhoads 1894. It occurs in eastern New Mexico west to the Pecos and upper Canadian rivers (Reed and Choate 1986).

***Perognathus flavus* Baird 1855; Silky Pocket Mouse.**—There are two subspecies. *P. f. flavus* Baird 1855 occurs nearly statewide with the exception of the range of *P. f. hopiensis* and possibly *P. merriami*. Range limits are poorly understood. Lee and Engstrom (1991) found intergrades with *P. merriami* in the vicinity of Carlsbad, Eddy Co. *P. f. hopiensis* Goldman 1932 occurs in the San Juan River Basin.

***Perognathus merriami* J. A. Allen 1892; Merriam's Pocket Mouse.**—This species was formerly regarded as a subspecies of *P. flavus* (Wilson 1973; Lee and Engstrom 1991). The subspecies is *P. m. gilvus* Osgood 1900. It is known from southeastern New Mexico in Chaves and Eddy counties, where it is sympatric with *P. flavus* (Lee and Engstrom 1991). Range limits are poorly understood.

Family Zapodidae (Jumping Mice)

***Zapus hudsonius* (Zimmermann 1780); Meadow Jumping Mouse.**—Findley et al. (1975) erroneously assigned specimens of this species to *Z. princeps*. Hafner et al. (1981) reassigned specimens from the Rio Grande Valley, Jemez Mountains, and Sacramento Mountains of New Mexico (and the White Mountains of Arizona) to *Z. hudsonius*. The subspecies is *Z. h. luteus* Miller 1911. It occurs in the Jemez and Sacramento mountains and in the Rio Grande drainage from central Socorro Co. north to Rio Arriba and Taos counties, where it has been reported from along

tributaries in the southern San Juan and western Sangre de Cristo mountains (Morrison 1992). It eventually may be found in west-central Catron Co. based on its occurrence in adjacent areas in the White Mountains of Arizona.

***Zapus princeps* J. A. Allen 1893; Western Jumping Mouse.**—The subspecies is *Z. p. princeps* J. A. Allen 1893. It occurs in the San Juan and Sangre de Cristo mountains.

Family Muridae (Mice, Rats, and Voles)
Subfamily Arvicolinae

***Clethrionomys gapperi* (Vigors 1830); Southern Red-backed Vole.**—There are two subspecies. *C. g. gauti* Cockrum and Fitch 1952 occurs in northern New Mexico in the San Juan, Jemez, and Sangre de Cristo mountains. *C. g. limitis* (Bailey 1913) occurs in west-central New Mexico on the Mogollon Plateau and in the Magdalena and San Mateo mountains.

***Microtus longicaudus* (Merriam 1888); Long-tailed Vole.**—The subspecies is *M. l. longicaudus* (Merriam 1888). It occurs in the larger and higher mountains statewide except the Magdalena, Pinos Altos, and San Mateo mountains. A report of this species in the Zuni Mountains may be referable to *M. montanus* (Hubbard et al. 1983).

***Microtus mogollonensis* (Mearns 1890); Mogollon Vole.**—This species is sometimes synonymized with *M. mexicanus* (e.g., Hall 1981; but see Frey 1989; Frey and La Rue 1993; and Frey et al. 2002b). Frey (1989; but see Hall 1981) considered all known populations in New Mexico to be referable to *M. m. mogollonensis* (Mearns 1890). It occurs in the larger and higher mountains statewide with the exception of the San Juan, Jemez, and the main mass of the Sangre de Cristo mountains (Frey and La Rue 1993). It occurs east of the Sangre de Cristo Mountains in Colfax and Union counties (Dalquest et al. 1990; Hubbard et al. 1983; Finley et al. 1986).

***Microtus montanus* (Peale 1848); Montane Vole.**—There are two subspecies. *M. m. arizonensis* V. Bailey 1898 occurs in west-central New Mexico in the upper San Francisco River drainage in east-central Catron Co. (Hubbard et al. 1983; Frey et al. 1995). In

addition, a record from the Zuni Mountains may be referable to this taxon (Hubbard et al. 1983). *M. m. fusus* Hall 1938 occurs in northern New Mexico in the San Juan and Jemez mountains. Reports of this species from northeastern New Mexico (Colfax and Union counties; Dalquest 1975) are erroneous (Hubbard et al. 1983; Finley et al. 1986).

***Microtus ochrogaster* (Wagner 1842); Prairie Vole.**—The subspecies is *M. o. haydenii* (Baird 1857). It is known from the upper Canadian River Basin in Colfax and Mora counties (Hubbard et al. 1983). Additional relict populations may occur farther east in the Arkansas River Basin of New Mexico based on its occurrence in the Texas Panhandle (Manning and Jones 1988).

***Microtus pennsylvanicus* (Ord 1815); Meadow Vole.**—The subspecies is *M. p. modestus* (Baird 1857). It occurs in the San Juan and Sangre de Cristo mountains, as well as wet areas on the plains east of these mountains to Union Co. (Hubbard et al. 1983) and south to Las Cienegas, Santa Fe Co. (David Hafner, personal communication). In addition, there are three highly isolated, relict populations including the lower San Juan River (San Juan Co.), the Rio San Jose at San Rafael (Cibola Co.), and the upper Tularosa River near Aragon (Catron Co.). The latter two populations may be extinct. Anderson and Hubbard (1971) synonymized *M. p. aztecus* (Allen 1893) from the San Juan River with *M. p. modestus* and considered the population from the Tularosa River as an intergrade with *M. p. chihuahuensis* Cockrum 1968. Krausman and Bahti (1980) erroneously reported this species from the upper San Francisco drainage at Centerfire Bog, Catron Co. (Hubbard et al. 1983).

***Ondatra zibethicus* (Linnaeus 1766); Common Muskrat.**—There are four subspecies. *O. z. cinnamominus* Hollister 1910 is known from Union Co. (Best 1971) and is probably the subspecies of the entire lower Arkansas River drainage on the plains of northeastern New Mexico. *O. z. osoyoosensis* (Lord 1863) occurs in the northwestern and north-central part of the state with eastern limits on the east slope of the Sangre de Cristo Mountains (upper Canadian River drainage) and southern limits at the Rio San Jose in Cibola Co. and at Albuquerque in Bernalillo Co. *O. z. pallidus* (Mearns 1890) occurs in the San Francisco and Gila river drainages on the Mogollon Plateau in

west-central New Mexico. *O. z. ripensis* (Bailey 1902) occurs in the Pecos River drainage and lower Rio Grande drainage south of Bernalillo Co.

***Phenacomys intermedius* Merriam 1889; Western Heather Vole.**—The subspecies is *P. i. intermedius* Merriam 1889. It occurs in the San Juan and Sangre de Cristo mountains.

Subfamily Murinae

****Mus musculus* Linnaeus 1758; House Mouse.**—This introduced species occurs statewide, primarily in association with urban areas and lower elevations.

****Rattus norvegicus* (Berkenhout 1769); Brown Rat.**—This introduced species, also commonly called Norway rat, has been verified by specimen from Bernalillo, Lea, and Roosevelt counties (John Hubbard in litt.; Frey, in press). However, Miller and Doll (1967) reported it virtually statewide, exclusive of high elevation and areas of low human density; they reported it primarily in association with urban areas and agricultural areas in the middle and lower Rio Grande and Pecos River drainages.

****Rattus rattus* (Linnaeus 1758); House Rat.**—This introduced species, also commonly called black rat, occurs in Doña Ana Co. (John Hubbard, in litt.).

Subfamily Sigmodontinae

***Baiomys taylori* (Thomas 1887); Northern Pygmy Mouse.**—The subspecies is *B. t. ater* Blossom and Burt 1942. It is known from southern Hidalgo Co. and northeastern Luna Co. (Stuart and Scott 1992).

***Neotoma albigula* Hartley 1894; Western White-throated Woodrat.**—There are two subspecies. *N. a. albigula* Hartley 1894 occurs west of the Rio Grande (exclusive of the San Juan River Basin) and east of the Rio Grande in the vicinity of the Franklin Mountains in southwestern Doña Ana Co. where it occurs in sympatry with *N. leucodon* (see Planz et al. [1996] and Edwards et al. [2001]). *N. a. laplataensis* F. W. Miller 1933 occurs in the San Juan River drainage, San Juan Co. Populations from east of the Rio Grande that were formerly assigned to this species have been recognized as a distinct species, *N. leucodon*

(Planz et al. 1996; Edwards et al. 2001). However the geographic distribution of the two species in New Mexico is uncertain due to the small number of specimens included in the molecular studies.

***Neotoma cinerea* (Ord 1815); Bushy-tailed Woodrat.**—There are two subspecies. *N. c. arizonae* Merriam 1893 occurs at lower elevations in the San Juan River Basin. *N. c. orolestes* Merriam 1894 occurs at high elevations in the San Juan, Jemez, and Sangre de Cristo mountains.

***Neotoma leucodon* Merriam 1894; Eastern White-throated Woodrat.**—This species includes populations east of the Rio Grande that were formerly recognized as *N. albigula* (Planz et al. 1996; Edwards et al. 2001). There are two subspecies. *N. l. melas* Dice 1929 occurs east of the Rio Grande exclusive of the range of the other subspecies. The name *melas* originally only applied to animals on the Carrizozo lava field in Lincoln and Otero counties. However, Rogers and Schmidly (1981) subsequently synonymized this taxon within *N. a. albigula*. Consequently, the name *melas* takes priority and applies to populations of *N. leucodon* formerly regarded as *N. a. albigula*. *N. l. warreni* Merriam 1908 is only known from Union Co. (Hall 1981; Rogers and Schmidly 1981; Dalquest et al. 1990). However, based on adjacent records in Colorado (Armstrong 1972) it probably also occurs in eastern Colfax Co.

***Neotoma mexicana* Baird 1855; Mexican Woodrat.**—As currently understood there are five subspecies. *N. m. atrata* Burt 1939 occurs on the Carrizozo lava field, Lincoln and Otero counties. *N. m. inopinata* Goldman 1933 occurs in the San Juan Basin including the Chuska and Zuni mountains (San Juan, McKinley, northwest Cibola, and possibly western Rio Arriba counties). However, Hoffmeister (1986) did not recognize this subspecies in Arizona and included them in *N. m. pinetorum*. *N. m. mexicana* Baird 1855 is restricted to the Animas and Peloncillo mountains in Hidalgo Co. (Hall 1981). *N. m. pinetorum* Merriam 1893 occurs on the Mogollon Plateau exclusive of the Datil Mountains. *N. m. scopulorum* Finley 1953 occurs statewide primarily from high elevations and mesas exclusive of where other subspecies occur. However, it also occurs at lower elevation sites such as Elephant Butte, Sierra Co., the middle Pecos River (De Baca and Guadalupe counties), Bell Ranch

(San Miguel Co.), and Rio Puerco (Valencia Co.). Sullivan (1994) suggested that specimens from the Guadalupe Mountains in Eddy and Otero counties that had formerly been classified as *N. m. mexicana*, were more appropriately classified as *N. m. scopulorum*.

***Neotoma micropus* Baird 1855; Southern Plains Woodrat.**—There are two subspecies. *N. m. canescens* J. A. Allen 1891 occurs statewide at lower elevations in suitable habitat with the exception of the San Luis Valley and San Juan River Basin. *N. m. leucophaea* Goldman 1933 occurs on the White Sands dune field, Otero Co.

***Neotoma stephensi* Goldman 1905; Stephens's Woodrat.**—There are two subspecies. *N. s. relicta* Goldman 1932 occurs in the San Juan River Basin. *N. s. stephensi* Goldman 1905 occurs in west-central New Mexico as far south as the Big Burro Mountains, Grant Co., and east to northwestern Socorro Co.

***Onychomys arenicola* Mearns 1896; Mearns's Grasshopper Mouse.**—Hinesley (1979) recognized *O. arenicola* as distinct from *O. t. torridus*. The subspecies is *O. a. arenicola* Mearns 1896. It occurs throughout lower elevations of southern New Mexico generally east of the Continental Divide. In the Animas Valley, it comes in contact with *O. torridus* (very limited sympatry) just west of the Continental Divide (Sullivan et al. 1986). Its northern limits are the Mogollon Plateau in the west; central Bernalillo Co. in the Rio Grande Valley; central Socorro and Lincoln counties in the Jornada del Muerto and Tularosa Basin; east-central Lincoln Co. along the piedmont of the Sacramento Mountains; and central Eddy Co. in the Pecos River Valley.

***Onychomys leucogaster* (Wied-Neuwied 1841); Northern Grasshopper Mouse.**—There are three subspecies. *O. l. arcticeps* Rhoads 1898 occurs throughout the eastern plains west to the Sangre de Cristo Mountains and Pecos River Valley. *O. l. pallescens* Merriam 1890 occurs throughout the northwestern portion south to central Cibola Co. and east to the upper Rio Grande Valley north of Albuquerque (Bernalillo Co.). *O. l. ruidosae* Stone and Rehn 1903 occurs in the southwestern portion north to Las Vegas (San Miguel Co.) in the east and Cibola Co. in the west. Engstrom and Choate (1979) referred speci-

mens from San Miguel Co. to *O. l. arcticeps*. Range limits of subspecies are uncertain.

***Onychomys torridus* (Coues 1874); Southern Grasshopper Mouse.**—The subspecies is *O. t. torridus* (Coues 1874). It occurs west of the Continental Divide and south of the Mogollon Plateau (Hinesley 1979; Sullivan et al. 1986).

***Peromyscus boylii* (Baird 1855); Brush Mouse.**—The subspecies is *P. b. rowleyi* (J. A. Allen 1893). It occurs statewide except on the Llano Estacado.

***Peromyscus crinitus* (Merriam 1891); Canyon Mouse.**—The subspecies is *P. c. auripectus* (J. A. Allen 1893). It occurs in the San Juan River Basin and adjacent areas southeast to near Cabezón, Sandoval Co. (Jim Stuart, personal communication).

***Peromyscus eremicus* (Baird 1857); Cactus Mouse.**—There are two subspecies. *P. e. anthonyi* (Merriam 1887) occurs in the southwestern corner of the state including Grant, Hidalgo, and Luna counties. *P. e. eremicus* (Baird 1857) occurs in extreme southwestern Catron Co., the Rio Grande Valley north to Bernalillo Co., the Tularosa Basin north to Otero Co., and the extreme lower Pecos River drainage, Eddy Co.

***Peromyscus gratus* Merriam 1898; Osgood's Mouse.**—*P. gratus* was recognized as distinct from *P. truei* based on genetic differences (Modi and Lee 1984; Janacek 1990). The subspecies is *P. g. gentilis* Osgood 1904. It occurs on the Mogollon Plateau and adjacent areas including the San Francisco Mountains (Catron Co.), the Black Range (Sierra Co.), the Pinos Altos Mountains (Grant Co.), and the San Mateo Mountains (Socorro Co.). It is known to occur sympatrically with *P. truei* (Modi and Lee 1984). Distributional limits in New Mexico are unknown.

***Peromyscus leucopus* (Rafinesque 1818); White-footed Mouse.**—There are two subspecies. *P. l. arizonae* (J. A. Allen 1894) occurs in the southwestern corner of the state, south of the Mogollon Plateau and east into Luna Co. *P. l. tornillo* Mearns 1896 occurs in the Rio Grande drainage north to El Rito (Rio Arriba Co.), and eastward throughout the remainder of the state at low elevations. One record

from Datil, Catron Co., is in the drainage of the Plains of San Agustin. Choate (1997) considered specimens from the Llano Estacado to be intergrades between *P. l. tornillo* and *P. l. texanus* (Woodhouse 1853), but assigned them to *P. l. tornillo*.

***Peromyscus maniculatus* (Wagner 1845); Deer Mouse.**—There are three subspecies. *P. m. blandus* Osgood 1904 occurs in southern New Mexico. It occurs northward to the Mogollon Plateau, the northern end of the Tularosa Basin, and the Canadian River in Quay Co. *P. m. luteus* Osgood 1905 occurs on the Llano Estacado and possibly other areas of eastern New Mexico north of the Llano Estacado (see Choate [1997] for review). *P. m. rufinus* (Merriam 1890) occurs in northern New Mexico and in the higher mountains (Mogollon Plateau and Sacramento Mountains) of southern New Mexico. Limits of *P. m. luteus* with *P. m. blandus* and *P. m. rufinus* to the west are uncertain. Dalquest et al. (1990) thought that specimens from eastern and southern Union Co. were intergrades between *P. m. luteus* and *P. m. rufinus*.

***Peromyscus nasutus* (J. A. Allen 1891); Northern Rock Mouse.**—This form was considered distinct from *P. difficilis* by Carleton (1989; but see Janacek [1990]). There are three subspecies. *P. n. griseus* Benson 1932 occurs on the Carrizozo lava field (Lincoln and Otero counties). *P. n. nasutus* (J. A. Allen 1891) occurs throughout most of New Mexico exclusive of the range of the other subspecies and exclusive of the San Juan River Basin and the Llano Estacado (although it has been collected from the northern edge of the Llano Estacado [Choate et al. 1991]). *P. n. penicillatus* Mearns 1896 is known only from southern Doña Ana Co. in the vicinity of El Paso, Texas, and the Dog Mountains in extreme southeastern Hidalgo Co.

***Peromyscus pectoralis* Osgood 1904; White-ankled Mouse.**—The subspecies is *P. p. laceianus* V. Bailey 1906. It occurs in the Guadalupe Mountains and the lowlands between the Sacramento Mountains and Pecos River north to northeastern Lincoln Co. (Geluso, in press b).

***Peromyscus truei* (Shufeldt 1885); Piñon Mouse.**—The subspecies is *P. t. truei* (Shufeldt 1885). It occurs from the Guadalupe (Cornely et al. 1981), San Andres, and Big Burro mountains northward. It is

not known from the extreme southwestern part of the state (see Cook [1986] for a discussion of a supposed record from the Animas Mountains), the southern Pecos River Valley, or all but the northern and northeastern edge of the Llano Estacado (Findley et al. 1975; Choate et al. 1991; Choate 1997). It is known to occur sympatrically with *P. gratus*; range limits of these two species in southwestern New Mexico are uncertain.

***Reithrodontomys fulvescens* J. A. Allen 1894; Fulvous Harvest Mouse.**—The subspecies is *R. f. canus* Benson 1939. It occurs in the Peloncillo and Animas mountains, Hidalgo Co. (Cook 1986).

***Reithrodontomys megalotis* (Baird 1857); Western Harvest Mouse.**—There are two subspecies. *R. m. aztecus* J. A. Allen 1893 occurs throughout northern New Mexico south through the Mogollon Mountains (northern Grant Co.), the middle Rio Grande Valley (southern Socorro Co.), the middle Pecos River Valley (Guadalupe Co.), and central Llano Estacado (northern Roosevelt Co.). *R. m. megalotis* (Baird 1857) occurs throughout southern New Mexico south of the range of *R. m. aztecus*.

***Reithrodontomys montanus* (Baird 1855); Plains Harvest Mouse.**—There are two subspecies. *R. m. griseus* V. Bailey 1905 occurs on the eastern plains. *R. m. montanus* (Baird 1855) occurs from the bootheel (Hidalgo Co.) northeast through the middle Rio Grande Valley and northeast to the upper Canadian River drainage (Colfax Co.). Limits to the east with *R. m. griseus* are uncertain.

***Sigmodon arizonae* Mearns 1890; Arizona Cotton Rat.**—The subspecies is *S. a. cienegae* A. B. Howell 1919. It has been collected from a single location at the eastern base of the Peloncillo Mountains, Hidalgo Co. (Frey et al. 2002a).

***Sigmodon fulviventer* J. A. Allen 1889; Tawny-bellied Cotton Rat.**—There are two subspecies. *S. f. goldmani* Bailey 1913 occurred at the hot springs in the vicinity of the present town of Truth or Consequences, Sierra Co. This subspecies has not been reported since its description in 1913; it is presumed extinct. *S. f. minimus* Mearns 1894 occurs in two discrete populations. The southwestern population occurs south and east of the Mogollon Plateau east-

ward to the Rio Grande and northward to Sierra Co. The northern population occurs in the Rio Grande Valley from southeast Sandoval Co., south to northern Socorro Co. Keith Geluso recently discovered this species west of the central Rio Grande Valley to the vicinities of Grants and El Malpais in Cibola Co.; details of these captures are being prepared for publication (Keith Geluso, personal communication).

***Sigmodon hispidus* Say and Ord 1825; Hispid Cotton Rat.**—There are two subspecies. *S. h. berlandieri* Baird 1855 occurs in southwestern New Mexico south of the Mogollon Plateau, in the Rio Grande drainage as far north as Valencia Co., the Tularosa Basin, and the Pecos Valley as far north as Guadalupe Co. In contrast to Hall (1981) who referred all specimens from New Mexico to *S. h. berlandieri*, Choate (1997) assigned all specimens from the Llano Estacado to *S. h. texianus* (Audubon and Bachman 1853). All other animals from east of the Pecos River are also provisionally assigned to this subspecies based on Jones et al. (1988) and Pesaturo et al. (1990) who referred specimens from the northwestern and west-central Texas panhandle to this subspecies.

***Sigmodon ochrognathus* V. Bailey 1902; Yellow-nosed Cotton Rat.**—*S. ochrognathus* is monotypic (Carroll et al. 2002). It is known only from extreme southwestern Hidalgo Co. and the vicinity of the Big Burro Mountains in Grant Co. (Bruce Hayward, personal communication). However, Hollander et al. (1990) reported it from the Guadalupe Mountains in Culberson Co., Texas, and it should be sought in the New Mexico portion of that range in Eddy and Otero counties.

Family Erethizontidae (New World Porcupines)

***Erethizon dorsatum* (Linnaeus 1758); North American Porcupine.**—The subspecies is *E. d. epixanthum* Brandt 1835 (Stangl et al. 1991). It occurs statewide.

Family Myocastoridae (Coypus)

****Myocastor coypus* (Molina 1782); Nutria.**—This species, also called coypu, was introduced near Roswell (Chaves Co.) and the San Simon Cienega (Hidalgo Co.). It was established along the Ruidoso

River (Lincoln Co.) and Rio Hondo (Chaves and Lincoln counties), and there have been recent unconfirmed reports of the species from the vicinity of Albuquerque (Bernalillo Co.; Jones and Schmitt 1997). It persists along the Rio Hondo.

ORDER LAGOMORPHA—Pikas, Hares,
and Rabbits
Family Ochotonidae (Pikas)

***Ochotona princeps* (Richardson 1828); American Pika.**—There are two subspecies. *O. p. incana* A. H. Howell 1919 occurs in the Sangre de Cristo Mountains. *O. p. nigrescens* Bailey 1913 occurs in the Jemez Mountains.

Family Leporidae (Hares and Rabbits)

***Lepus americanus* Erxleben 1777; Snowshoe Hare.**—The subspecies is *L. a. bairdii* Hayden 1869. It occurs in the San Juan and Sangre de Cristo mountains (Malaney 2003). Bailey (1931) also reported observation of sign of this hare from the Jemez Mountains, although no specimen has been collected from this range.

***Lepus californicus* Gray 1837; Black-tailed Jackrabbit.**—There are two subspecies. *L. c. melanotis* Mearns 1890 occurs throughout northeastern New Mexico, east of the Pecos River and south through Roosevelt Co. *L. c. texianus* Waterhouse 1848 occurs elsewhere in the state. Limits between the two subspecies near the southern portion of the Llano Estacado are uncertain (Pesaturo et al. 1990) as are limits in the vicinity of Santa Fe and San Miguel counties.

***Lepus callotis* Wagler 1830; White-sided Jackrabbit.**—The subspecies is *L. c. gaillardi* Mearns 1896. It is restricted to the southern Animas and Playas valleys, Hidalgo Co. (Bednarz and Cook 1984); it may be extirpated from the Playas Valley.

***Lepus townsendii* Bachman 1839; White-tailed Jackrabbit.**—The subspecies is *L. t. campanius* Hollister 1837. It is known from the San Luis Valley (Taos Co.) and montane grasslands in the San Juan Mountains (Rio Arriba Co.). Its current distribution and status in the state is unknown.

***Sylvilagus audubonii* (Baird 1857); Desert Cottontail.**—There are three subspecies. *S. a. cedrophilus* Nelson 1907 occurs in the northwestern portion of New Mexico southward through the Mogollon Plateau and east to Santa Rosa, Guadalupe Co. *S. a. minor* (Mearns 1896) occurs in the southwestern portion, south of the Mogollon Plateau and east to the Rio Grande. *S. a. neomexicanus* Nelson 1907 occurs throughout the eastern plains. Range limits of subspecies are uncertain.

***Sylvilagus cognatus* Nelson 1907; Manzano Mountain Cottontail.**—This species was formerly considered a subspecies of *S. floridanus* (Ruedas 1998). It is considered monotypic although geographic variation has yet to be examined. It occurs primarily in the central mountains of the state (Mount Taylor, Datil, Magdalena, San Mateo, Sandia, Manzano, Capitan, and Sacramento mountains). However, there are non-montane records at the northeastern edge of its range from the Conchas River and Mesa de la Yegua in central San Miguel Co. (Bailey 1931; Hall 1981). Findley et al. (1975) referred cottontails from the Mogollon Plateau in southern Catron Co. to *S. floridanus*; these animals are likely referable to *S. cognatus* or *S. nuttallii*.

***Sylvilagus floridanus* (J. A. Allen 1890); Eastern Cottontail.**—There is one subspecies. *S. f.*

llanensis Blair 1938 occurs on the plains in extreme eastern New Mexico; it has been reported from the northeastern corner (Union Co.; Dalquest et al. 1990) and the Llano Estacado (Curry Co.; Stangl and Earhart 1990). Other populations formerly referred to this species have been recognized as distinct species (Ruedas 1998).

***Sylvilagus holzneri* (Mearns 1896); Holzner's Cottontail.**—This species was formerly considered a subspecies of *S. floridanus* (Ruedas 1998). Range limits and extent of geographic variation (including subspecies designations) are unknown. Additional taxonomic studies are warranted. It occurs in the southwestern mountains (Hidalgo, Luna, and southern Grant counties) north to the Mogollon Plateau (Bailey 1931; Hall 1981). The taxonomy of cottontails on the Mogollon Plateau that were formerly referred to *S. floridanus* is uncertain.

***Sylvilagus nuttallii* (Bachman 1837); Mountain Cottontail.**—The subspecies is *S. n. pinetis* (Allen 1894). It is known from the vicinities of the San Juan, Jemez, Sangre de Cristo (including the eastern Raton-Black Mesa extension), Chuska, and Zuni mountains and the upper San Juan River Valley. It may also occur on the Mogollon Plateau in southern Catron Co. based on its distribution in the adjacent White Mountains, Arizona (Hoffmeister 1986).

TAXA OF POSSIBLE OCCURRENCE

Order Didelphimorphia Family Didelphidae

***Didelphis virginiana californica* Bennett 1816.**—This Virginia opossum could occur in southwestern New Mexico based on its occurrence in adjacent Arizona (Bermudez et al. 1995; Babb et al. 2004). An opossum reported by Cook (1986) from the Animas Mountains in Hidalgo County may be referable to this subspecies.

Order Insectivora Family Soricidae

***Notiosorex cockrumi* Baker et al. 2003; Cockrum's Desert Shrew.**—This species was de-

scribed by Baker et al. (2003a) from specimens formerly referred to *N. crawfordi*. Although based on few records, the distribution of this species includes Sonora and southeastern Arizona, where it is known to occur in sympatry with *N. crawfordi*. It potentially occurs in southwestern New Mexico.

***Sorex haydeni* Baird 1857; Prairie Shrew.**—Two specimens tentatively identified as *S. cinereus* from the Jemez Mountains were found to resemble *S. haydeni* in genetic characteristics (Demboski and Cook 2003). Additional taxonomic studies on the *S. cinereus* species group are warranted. This species should be sought in the north-central and northeastern part of the state.

Family Talpidae

Scalopus aquaticus aereus (Bangs 1896); **Eastern Mole**.—This species occurs in adjacent areas of the panhandle of Texas, the Llano Estacado of Texas, and southeastern Colorado (Jones et al. 1988; Vaughan 1961; Choate 1990). It should be sought in drainages extending from these areas into northeastern New Mexico.

Order Chiroptera
Family Mormoopidae

Mormoops megalophylla megalophylla Peters 1864; **Ghost-faced Bat**.—This species has been found in southeastern Arizona and its occurrence is possible in southwestern New Mexico.

Family Phyllostomidae

Macrotus californicus californicus Baird 1857; **California Leaf-nosed Bat**.—This species has been found in southeastern Arizona and its occurrence is possible in southwestern New Mexico.

Family Vespertilionidae

Myotis velifer magnamolaris Choate and Hall 1967. —This cave myotis occurs throughout the Texas Panhandle (Jones et al. 1987) and was reported from within 20 km of New Mexico in Cimarron Co., Oklahoma (Dalquest et al. 1990). It possibly occurs in northeastern New Mexico.

Order Carnivora
Family Felidae

Puma concolor hippolestes (Merriam 1897). —Armstrong (1972) considered all mountain lion specimens from Colorado as belonging to this subspecies. Specimens are known from within 20 km of New Mexico; this subspecies could extend into northern New Mexico.

Leopardus pardalis sonoriensis (Linnaeus 1758); **Ocelot**.—Ocelots occur in southeastern Arizona (Hoffmeister 1986) and their occurrence is possible in southwestern New Mexico.

Family Mustelidae

Lontra canadensis lataxina F. Cuvier 1823. —Jones et al. (1987) recognized this northern river otter as the form formerly inhabiting the Texas panhandle. Thus, this may be the subspecies that once inhabited the Arkansas River drainage in northeastern New Mexico.

Taxidea taxus jeffersoni (Harlan 1825). —This American badger occurs across much of western Colorado (Long 1972). Specimens from the southern San Luis Valley may be intergrades between this subspecies and *T. t. berlandieri* (Armstrong 1972; Long 1972). These specimens have either been regarded as *T. t. berlandieri* (Long 1972) or *T. t. jeffersoni* (Armstrong 1972 [reported as *T. t. montana* which is a synonym of *T. t. jeffersoni*]; Hall 1981). Thus, it is possible that this subspecies extends southward into the San Luis Valley of New Mexico.

Taxidea taxus taxus (Schreber 1777). —Long (1972) included the extreme northeastern corner of the state (Union Co.) within the range of this American badger, although no specimens were examined. Specimens have been collected from Las Animas Co. Colorado within 50 km of New Mexico (Long 1972; Armstrong 1972).

Family Mephitidae

Conepatus leuconotus figginsi Miller 1925. —This white-backed hog-nosed skunk is known only from western Baca Co., Colorado and Cimarron Co., Oklahoma (Armstrong 1972; Dragoo et al. 2003). Northeastern New Mexico has been included within its range, but specimens are not available to document its occurrence in this area (Hall 1981; Dragoo et al. 2003).

Spilogale putorius interrupta (Rafinesque 1820); **Eastern Spotted Skunk**. —This species is known from the Texas panhandle and Llano Estacado (Jones et al. 1985, 1988). It may occur in extreme eastern New Mexico.

Order Artiodactyla
Family Cervidae

Cervus canadensis canadensis Erxleben 1777.—The presumed historical range of this elk included the northeastern corner of the state.

Order Rodentia
Family Sciuridae

Ammospermophilus leucurus cinnamomeus (Merriam 1890).—This white-tailed antelope squirrel occurs in northeastern Arizona near the New Mexico border (Hall 1981; Hoffmeister 1986). Its distribution may extend into New Mexico.

Neotamias minimus arizonensis (Howell 1922).—This least chipmunk possibly occurs in the higher elevations of the Mogollon Plateau in Catron Co. based on its adjacent occurrence in the White Mountains of Arizona (Hoffmeister 1986).

Neotamias minimus caryi (Merriam 1908).—This least chipmunk occurs in the San Luis Valley in Colorado and may occur in the New Mexico portion of the valley.

Neotamias rufus (Hoffmeister and Ellis 1979); **Hopi Chipmunk**.—Formerly, this monotypic species was regarded as *N. hopiensis* or *N. quadrivittatus rufus* (Patterson 1984). It occurs in the San Juan basin of Colorado and Utah, and its range may extend into the New Mexico portion of the basin.

Spermophilus spilosoma ammophilus (Hoffmeister 1959).—Anderson (1972) reported a specimen of this spotted ground squirrel from 6 miles south of Ciudad Juarez, Chihuahua, but noted that it was an intergrade with *S. s. canescens*. This form could extend northward into south-central New Mexico.

Sciurus nayaritensis apache J. A. Allen 1893; **Mexican Fox Squirrel**.—This squirrel has been reported from near the U.S. border monument number 65 in the San Luis Mountains. This locality is probably in Chihuahua, but it is possible that the species occasionally occurs in the New Mexico portion of this range in extreme southern Hidalgo Co.

Family Geomyidae

Cratogeomys castanops castanops (Baird 1852).—This yellow-faced pocket gopher occurs in the middle and lower Arkansas River drainage of Colorado near the New Mexico border (Hollander 1990). Russell (1968) assigned three specimens from northeastern New Mexico to this subspecies. In a multivariate analysis of cranial features, Hollander (1990) found one of several specimens from Union and Colfax counties to be most similar to this taxon; the remainder was most similar to *P. c. perplanus*. Despite this, he did not refer any specimens from New Mexico to this subspecies. It seems likely that *P. c. castanops* occurs in extreme northern Colfax or Union counties. Additional taxonomic analyses are warranted.

Thomomys bottae extenuatus Goldman 1935.—This Botta's pocket gopher occurs in southeastern Arizona within about 5 km from New Mexico. It may occur in western Hidalgo Co.

Family Heteromyidae

Perognathus apache relictus Goldman 1938.—This Apache pocket mouse occurs at the Great Sand Dunes dune field in the San Luis Valley of Colorado (see Williams [1978]). It possibly occurs in the adjacent San Luis Valley in New Mexico. This subspecies is sometimes synonymized in *P. flavescens* (e.g., Williams 1978; Hall 1981).

Perognathus flavus bunkeri Cockrum 1951.—This silky pocket mouse has been collected from Colorado within 10 km of New Mexico (Armstrong 1972). It should be sought in northern Union and northeastern Colfax counties.

Perognathus flavus sanluisi Hill 1942.—This silky pocket mouse occurs in the San Luis Valley in Colorado, within 10 km of New Mexico (Armstrong 1972).

Family Muridae
Subfamily Arvicolinae

Clethrionomys gapperi arizonensis Cockrum and Pitch 1952.—This southern red-backed vole occurs in the White Mountains in west-central Arizona.

It likely occurs in New Mexico in the higher elevations west of the San Francisco River drainage (but including the upper San Francisco River draining Escudilla Mountain) in Catron Co.

***Microtus mogollonensis guadalupensis* V. Bailey 1902.**—This Mogollon vole occurs in the Guadalupe Mountains, Hudspeth Co., Texas, with records from within 2 km of New Mexico. It almost certainly occurs on the New Mexico portion of the Guadalupe Mountains in Eddy Co.

***Microtus mogollonensis navaho* Benson 1934.**—This Mogollon vole occurs in southwestern Colorado, southeastern Utah, and north-central Arizona (Frey 1989). This vole undoubtedly occurs in the New Mexico portion of the Chuska Mountains because it has been collected in this range from less than 8 km west of New Mexico (Frey and LaRue 1993). It may also occur in extreme northern San Juan Co., based on its occurrence in contiguous drainages in southwestern Colorado (Frey et al. 2002b).

Subfamily Sigmodontinae

***Baiomys taylori taylori* (Thomas 1887).**—This pygmy mouse has been expanding its range in Texas and Oklahoma. It may eventually be found on the Llano Estacado of eastern New Mexico based on its recent collection from Yoakum Co., Texas, within 35 km of New Mexico (Choate et al. 1990, 1991; Choate 1997).

***Onychomys leucogaster albescens* Merriam 1904.**—This northern grasshopper mouse occurs in Mexico near El Paso, Texas. It is possible in Doña Ana Co. and other adjacent areas of New Mexico.

***Peromyscus leucopus texanus* (Woodhouse 1853).**—This white-footed mouse occurs in west-central Texas. Specimens of this species on the Llano Estacado are probably intergrades between this subspecies and *P. l. tornillo* (Choate 1997). It is possible that this subspecies occurs in southeastern New Mexico.

***Peromyscus maniculatus nebrascensis* (Coues 1877).**—This deer mouse occurs in adjacent areas of

eastern Colorado, western Oklahoma, and the northeastern panhandle of Texas. Its range could extend into northeastern New Mexico.

***Peromyscus melanotis* J. A. Allen and Chapman 1897; Black-eared Mouse.**—This monotypic species occurs as isolated populations in the Chiricahua, Graham, and Santa Catalina mountains in southeastern Arizona (Bowers 1974; but see Hoffmeister 1986). It is possible that this species could exist on other mountaintops in southwestern New Mexico.

***Reithrodontomys montanus albescens* Cary 1903.**—This plains harvest mouse occurs in eastern Colorado within 12 km of New Mexico. This subspecies possibly occurs in northeastern New Mexico.

***Sigmodon hispidus confinis* Goldman 1918.**—This hispid cotton rat occurs in southeastern Arizona with records within 7 km of New Mexico. It is likely that this taxon occurs in extreme western Hidalgo Co. such as at San Simon Cienega.

Order Lagomorpha Family Ochotonidae

***Ochotona princeps saxatilis* Bangs 1899.**—This American pika probably occurs in the San Juan Mountains (David Hafner, personal communication); it is known from the San Juan Mountains in Colorado (Conejos Co.), about 3 km north of the Colorado border (Armstrong 1972).

Family Leporidae

***Lepus californicus eremicus* J. A. Allen 1894.**—The range limits of this black-tailed jackrabbit are in southeastern Arizona near the border of southwestern Hidalgo Co. where this taxon may occur.

***Sylvilagus robustus* (V. Bailey 1905); Davis Mountains Cottontail.**—This was formerly a subspecies of *S. floridanus* (Ruedas 1998). It is known from the Guadalupe Mountains in Culberson Co., Texas, about 8 km S of New Mexico (Hall 1981). Consequently, it probably occurs throughout adjacent areas of the Guadalupe Mountains in New Mexico.

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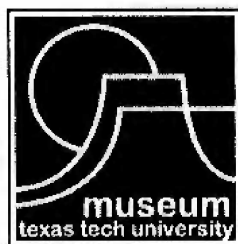
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